OPS115

Scanning Master Pro Color

USER'S MANUAL

MANUAL NO. OPS115-UM-153

GRAPHTEC

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Precautions

- TWAIN device drivers must be installed before scanning data from a TWAIN device.
- Do not run any other scanning software while scanning data from the scanner using Scanning Master Pro Color.
- To run Scanning Master Pro Color, one or more printer drivers should be installed.
- Use a plotter that supports raster printing to print out with Scanning Master Pro Color.
- When using a plotter for long-length printing with Scanning Master Pro Color, the plotter must support long-length printing.
- An ASPI-compatible SCSI board and ASPI manager must be installed and running when scanning data from the scanner.
- An ASPI manager is included in Windows 95/98/Me, but there may be problems with recognizing the SCSI ID automatically in the standard ASPI manager. An ASPI manager is not included in Windows NT 4.0 and Windows 2000/XP. Install the ASPI manager included with the SCSI board or the Adaptec EZ-SCSI software. When using with Windows 2000/XP, contact your SCSI board vendor or Adaptec distributor.

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1. INTRODUCTION

1.1 Introduction

Scanning Master Pro Color is a software application for scanning, displaying, and editing image data from a scanner.

1.2 Features

Improved ease-of-use with comprehensive scanning setting functions

All scanner settings are set by the Scanning Master Pro Color program. The state of drawings to be scanned may vary widely. Different image resolutions can be selected, and threshold values are set precisely to suit the particular drawing to be scanned, even for blueprints or old, discolored prints.

Scanning functions for sharp input

Rocker Mode is used to determine the settings while checking the scanned image by repeatedly scanning specific parts of the input image.

Threshold value adjustment function

Monochrome inversion, half-tone, brightness, and threshold values can be fine tuned to match the requirements.

Wide range of editing functions

The despeckle function can be used to eliminate speckles below the specified threshold value, and the skew correction function can be used to correct skewed documents when scanning. Other features include copying, pasting, area deletion, and rotation.

Note: The available editing functions vary depending on the type of image data (grayscale, 8-bit color, 24-bit color, bilevel monochrome).

Supports a wide range of file formats

The following file types can be used.

Bilevel : Bitmap, CAD Overlay ESP, TIFF uncompressed, TIFF G4, TIFF PackBits, TIFF CCITT G3, TIFF G3, CALS G4, PCX, INTERGRAPH G4, Sun Raster uncompressed, Sun Raster Encode

Grayscale : Bitmap, Bitmap RLE, TIFF uncompressed, TIFF PackBits, TIFF JPEG, PCX, Sun Raster uncompressed, Sun Raster Encode, JPEG

8-bit color : Bitmap, Bitmap RLE, TIFF uncompressed, TIFF PackBits, PCX, Sun Raster uncompressed, Sun Raster Encode

24-bit color : Bitmap, TIFF uncompressed, TIFF PackBits, TIFF JPEG, PCX, Sun Raster uncompressed, JPEG

1.3 System Requirements

The minimum system requirements for running the scanner hardware and software are described below.

System requirements

- Operating system : Windows 95/98/Me, Windows NT 4.0, Windows 2000/XP.
- CPU : Pentium 133 MHz or higher
- Memory : 32 MB or more
- Monitor : 1024 × 768 pixels, 256 colors or more
- Sufficient disk space to store data
- Mouse
- SCSI card : Adaptec

Recommended environment

For bilevel data

- CPU : Pentium II 300 MHz or higher
- Memory : 64 MB or more
- SCSI card : Adaptec PCI

For grayscale data

- CPU : Pentium III 550 MHz or higher
- Memory : 256 MB or more
- Monitor : 1024 × 768 pixels, High Color
- SCSI card : Adaptec PCI

For 8-bit/24-bit color data

- CPU : Pentium III 866 MHz or higher
- Memory : 512 MB or more
- Monitor : 1024 × 768 pixels, True Color
- SCSI card : Adaptec PCI

CHECKPOINT

Hardware specifications should meet or exceed the recommended settings to ensure the specified Scan Speeds. Similarly, colors may not be displayed correctly if the monitor is only capable of displaying 256 colors or fewer.
Additional memory in excess of the recommended system requirements will be required when scanning and editing grayscale or 8-bit/24-bit color images exceeding A1 size and at resolutions above 400 dpi. Depending on the document, scanning may not be possible or the Scan Speed may be reduced even if the memory size is increased. In such a case, enable **Use Work File** in the **Tools** menu > **Options** > **General** tab. In addition, enable **Specify Folder** and specify a folder with sufficient space.

Compatible scanners and other devices

- The following Graphtec models
  IS2100 : Ver. 1.00 or later
  IS3100 : Ver. 1.00 or later
  CS1000 : Ver. 1.00 or later
  CS1000EV : Ver. 2.00 or later
  CS1100EV : Ver. 1.00 or later
  CS2000 : Ver. 1.00 or later

- TWAIN-compatible imaging devices, such as scanners and digital cameras, capable of outputting bilevel monochrome images, 8-bit/pixel grayscale, 8-bit color images, and 24-bit color images.

2. SETUP

Please refer to your User's Manual for details on how to connect your scanner to your computer.

2.1 Installing

Scanning Master Pro Color is a software application for scanning, displaying, and editing image data from a scanner.

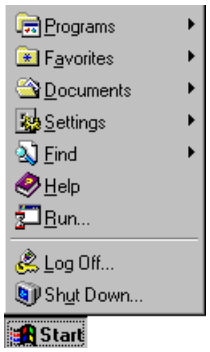
Operating Systems

Windows 95/98/Me, Windows NT 4.0, or Windows 2000/XP

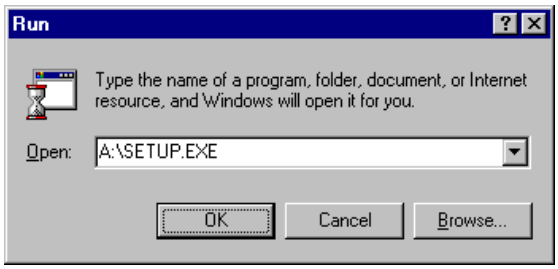
Setup Procedure

(The explanation uses the Windows 98 windows.)

(1) Start up Windows.
(2) Insert the Scanning Master Pro Color disk into the disk drive.
(3) Select **Run** from the **Start** menu.



(4) In the **Run** window type the disk drive letter followed by SETUP.EXE.



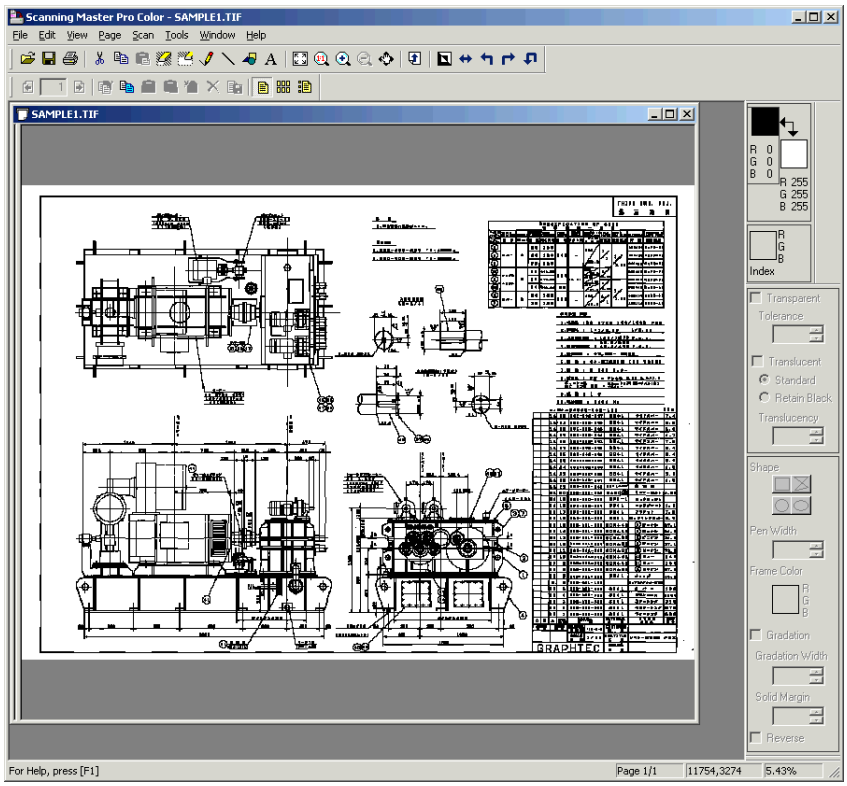
(5) Click the **OK** button to run the Scanning Master Pro Color setup program. Follow the setup program's on-screen instructions to complete the installation.

* Once the program has been correctly installed, "Scanning Master Pro Color" will be added to the **Programs** menu in the **Start** menu.

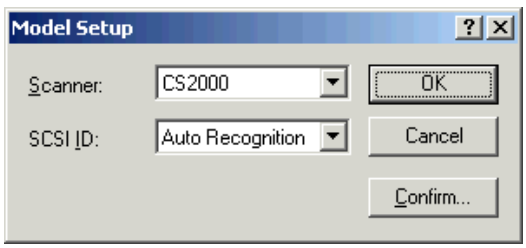
3. OPERATIONS

3.1 Setting Up the Scanner

(1) Make sure that the scanner is connected to the computer and the power to it is off. Then turn on the scanner.
(2) Turn on the computer.
(3) Windows starts up.
(4) Locate the Scanning Master Pro Color icon. To do so, click the Start button and select Programs and the Scanning Master Pro Color folder in that order. The icon is located there.
(5) Click the **Scanning Master Pro Color** icon.



(6) If you run Scanning Master Pro Color for the first time, use the **Model Setup** in the **Scan** window to specify the scanner currently connected to the system.



CHECKPOINT

Although Scanning Master Pro Color lets you set the same items regarding the View window regardless of scanner model, it requires you to set different items regarding the Scan window, depending on the scanner model. Be sure to select the correct scanner model.

Scanner ..... Sets the model of the scanner through which image data is scanned in.

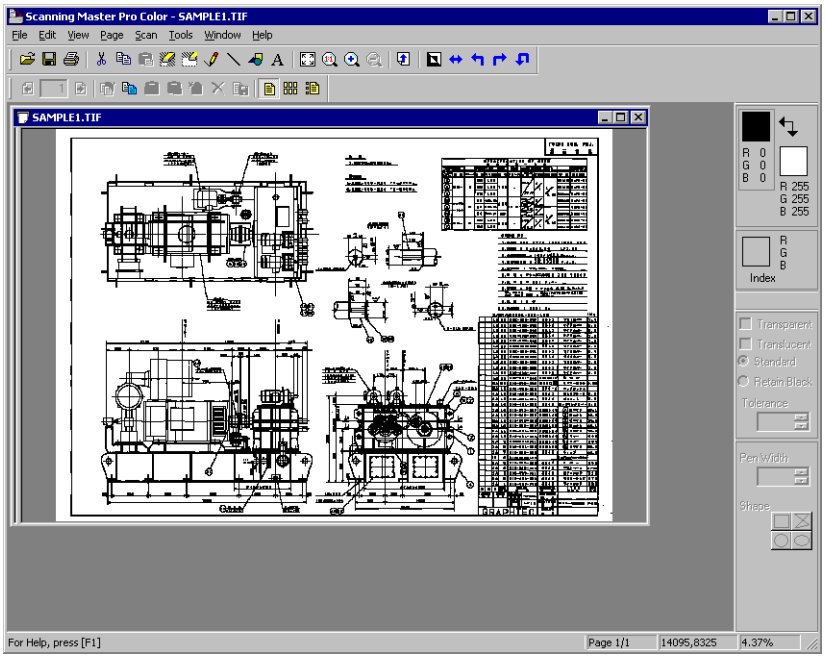
SCSI ID ..... Sets the SCSI ID number (0 to 6) of the scanner currently connected to the system. If set to Automatic Recognition, the SCSI ID number of the scanner connected to the system is identified automatically. If two or more devices are connected, the device with the lower ID number is connected first.

(7) Select **Scan** from the **Scan** menu, or click the **Scan** button on the toolbar. This displays the window to which the scanned-in image data will be sent.

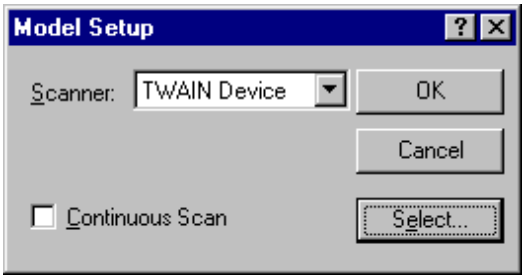
3.2 TWAIN Input Device Settings

The following settings should be performed when using TWAIN input devices.

(1) Check that the TWAIN device and the computer are turned off before turning on the TWAIN device.
(2) Now turn on the computer.
(3) Start up Windows.
(4) Check the Scanning Master Pro Color icon inside the Scanning Master Pro Color folder in the Programs folder by clicking the Start button.
(5) Click the **Scanning Master Pro Color** icon.



(6) When running Scanning Master Pro Color for the first time, the TWAIN device connected to the system must be specified in **Model Setup** in the **Scan** menu. Select Scanner and then **TWAIN device** to display the following window.



CHECKPOINT

When scanning using a TWAIN device, the TWAIN device must be compatible with bilevel monochrome, 8-bit/pixel grayscale, 8-bit color, or 24-bit color output.

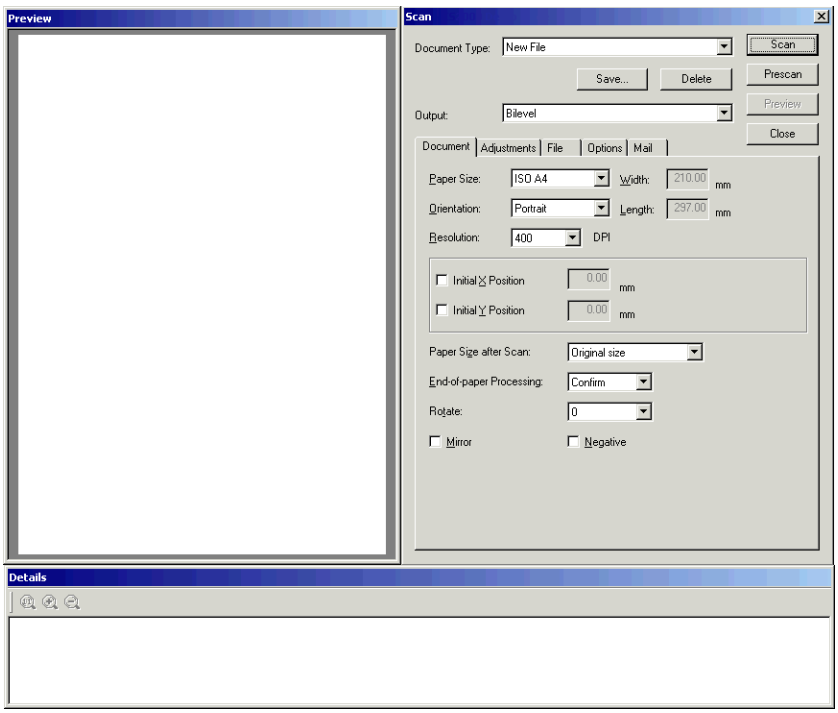
Scanner ..... Selects the TWAIN device
Continuous Scan ..... Allows continuous scanning of documents without closing the TWAIN device user interface
Select ..... Lists the TWAIN devices connected to the system for selecting the device to be used for scanning

(7) Select **Scan** in the **Scan** menu or click the **Scan** button on the **toolbar** to display the interface for the TWAIN device. For detailed information on TWAIN device settings, refer to the user's manual or help file for the particular device.

3.3 Scan Settings

CHECKPOINT

Scanning Pro Color may not permit you to select or specify some of the Scan Settings, depending on the scanner model that you have.
For details on connecting your scanner to your computer, please see your scanner's User's Manual.



Scan Button ..... Performs scanning using the specified settings.

Prescan Button ..... Performs a prescan operation. The Prescan mode lets you set the scanning conditions most suitable for the document while the scanner is actually in operation.

Using the **Rocker Mode**, you can change the scanning conditions while scanning in the same section repeatedly; you should set the optimal scanning conditions while reviewing the on-screen image quality. Then perform the actual scanning.

Use the following procedure for operation:

(1) Press the Prescan button to initiate scanning.

(2) Continue scanning up to the section for which you want to set the scanning conditions. If the image is currently displayed in the **Preview** Window, move the mouse cursor to the section for which you want to set the scanning conditions. Left-click there to move the scanning position to a previous one.

(3) Once the scanning position has been moved, turn on the **Rocker Mode** at any position to scan in data repeatedly from the same position. At this time, while reviewing the on-screen image in the **Preview** or **Details** Window, you can set the optimal conditions by changing the scanning settings.

(4) Once you have set the optimal conditions, quit the Prescan Mode and run **Scan**.

Preview ..... Performs scanning using the specified settings, and displays the results in the **Preview** window. Left-click on any part of the **Preview** window to display that area in the **Details** window. To change the size of the display, click on the buttons in the **Preview** window. Scanning is performed at the 1:1 setting.

Output ..... Specify how the scanned-in image data is to be processed.

Bilevel ..... Data is scanned in at two levels of black and white. Suitable for scanning in line drawings or characters.

Halftones ..... Data is scanned in at two levels of black and white. During scanning, one of four halftone methods is used to perform halftone processing.

Grayscale ..... Data is scanned in as an eight-bit image that contains a 256-level gray scale. Suitable for scanning in a monochrome photograph or similar document.

8-bit color ..... Data is scanned in as an eight-bit color image.

24-bit color ..... Data is scanned in as a 24-bit color image.

Document Type ..... Specify the type of document. Also specify any settings that are to be saved/read.

Save… Button ..... Saves the settings made at the **Adjustments** tab under a new file name. The saved settings can be read in **Document Type**.

Delete Button ..... Deletes the currently selected Document Type from the list.

Document Tab

Paper Size ..... Select the size of the document that contains the image data you want to scan in. If you want to supply a user-defined paper size here, type in the width and length of the document.

Orientation ..... Select the orientation of the document that contains the image data you want to scan in.

Resolution ..... Specify the resolution at which image data is scanned in.

Initial X Position ..... Let you move the start position so that you can skip over any white
Initial Y Position margins at the edge of the document.

Paper Size ..... After the document has been scanned, the document is enlarged
after Scan or reduced to a specified paper size without altering its height to width ratio.

End-of-paper ..... Specifies the processing to be performed when the scanner has
processing detected the end of the paper during scanning.

Confirm ..... Displays a window for confirming whether or not to create an image all the way up to a specified paper size.

End of paper ..... Creates the image all the way up to the position at which the end of the paper was detected.

Paper size ..... Creates an image all the way up to a specified paper size.

Rotate ..... The image will be rotated after scanning.

Mirror ..... If you enable this option, the image will be inverted on the vertical axis after scanning.

Negative ..... If you enable this option, the image will be color-inverted after scanning.

Adjustments tab

Rocker Mode ..... If you enable this option, you can change the scanning conditions while scanning the same section repeatedly; you should set the optimal scanning conditions while reviewing the on-screen image quality. Then perform the actual scanning.

TIP

Rocker Mode is available only for prescanning.
Once the scanning position has been moved, you can turn on the Rocker Mode at any position and scan in data repeatedly from the same position.
With the image displayed in the Preview window, move the mouse cursor to the area for which you wish to make the settings for scanning, and then right-click to return the scanning position to a previous position and turn on the Rocker mode.
You can turn the Rocker mode off if you right-click in the Preview window when in Rocker mode.

When Output is Bilevel

Threshold ..... Sets a scanning-in value suitable for the contrast on the document.
This setting can only be specified for the IS2100 model.

TIP

Generally scanners irradiate light to the document and scan in the image based on the strength of the reflected light. The threshold is the reference value that is used by the scanner to decide whether the reflecting spot is black or white.
The document will be scanned in as a whitish image if you set a smaller value for the threshold; it will be scanned in a as a blackish image if you set a larger value. (This will be reversed if the Invert box is checked). If you set a smaller threshold particularly when scanning in a drawing on a diazo copy or a similar document, speckled portions on the document will not be scanned in; however, thin lines may be eliminated if you set an excessively small threshold. It is important to set a suitable threshold for each document.

Intensity ..... Adjusts the overall brightness level. The higher the Intensity value, the whiter (fainter) the overall image appears.

Intensity Correction ..... Specify the degree of correction that applies to auto adjustment of the difference in contrast between the foreground and background. If the value is 0 (zero), only Brightness (Intensity) is available. The larger the value, the greater the effect on documents with contrast. Note that setting an excessively large value here is likely to generate noise or speckles.
This setting cannot be specified for the IS2100 model.

Edge Adjustment..... Setting a larger value here sharpens thin lines, characters, etc. Note that setting an excessively large value is likely to generate noise or speckles at each boundary between a black and a white area.
This setting cannot be specified for the IS2100 model.

TIP

If a good image is not obtained by default when you select "Bilevel" for Output, adjust the control settings in the following order:
Intensity > Intensity Correction> Edge Adjustment

Automatic Despeckling..... If you enable this option, speckles of the specified size will be removed from the image while the document is being scanned in.

Speckle Size ..... Set the size of speckles that are to be removed by automatic despeckling. (1 to 30 pixels, in 1-pixel increments)

Automatic Deskew ..... If you enable this option, any skewed image will be corrected if the scanner gets scanned-in image data from a skewed document. The automatic deskew operates up to ±7.1°.

Invert ..... To invert the black and white on the image to be captured, enable this parameter.
This setting can only be specified for the IS2100 model.

Edge Sharpening ..... To sharpen the boundary between the background and the data, enable this parameter. If you want to perform high resolution scanning or if background speckles increase, disable this parameter.
This setting can only be specified for the IS2100 model.

When Output is Halftones

Halftones ..... If you selected Halftones for Output, select the method of halftone processing here.
- Dither 4 × 4 ..... Halftone processing with a 4 × 4 dot matrix pattern.
- Dither 4 × 8 ..... Halftone processing with a 4 × 8 dot matrix pattern.
- Dither 8 × 8 ..... Halftone processing with a 8 × 8 dot matrix pattern.
- Error Diffusion ..... Photographs are scanned in with a more natural appearance.

Intensity..... Adjusts the overall brightness level. The higher the Intensity value, the whiter (fainter) the overall image appears.

Automatic Despeckling ..... If you enable this option, speckles of the specified size will be removed from the image while the document is being scanned in.

Speckle Size ..... Set the size of speckles that are to be removed by automatic despeckling. (1 to 30 pixels, in 1-pixel increments)

Automatic Deskew ..... If you enable this option, any skewed image will be corrected if the scanner gets scanned-in image data from a skewed document. The automatic deskew operates up to ±7.1°.

When Output is Grayscale

Gamma ..... Used to adjust the gamma value. If you set a large value here, intermediate-level areas will be scanned in as bright images.

Brightness ..... Specifies the image brightness. Increasing the specified value results in scanning as a brighter image.

Contrast ..... Used to adjust the contrast of the image. If you set a large value here, the image will be scanned in with a high contrast.

White Level ..... All pixels whiter than the setting will be scanned in as white. The smaller the setting, the larger the effect. For example, this is useful to scan in the background on the image as white.

TIP

When using the Preview button to preview the scanned image, if you click the button and then the left mouse button in the ensuing Details window, the color at the cursor position becomes the White Level setting. At this time, when you drag and then release the mouse, the darkest color in the enclosed area becomes the White Level setting.

Black Level ..... All pixels blacker than the setting will be scanned in as black. The smaller the setting, the larger the effect. For example, this is useful to scan in the background on the image as black.

TIP

When using the Preview button to preview the scanned image, if you click the button and then the left mouse button in the ensuing Details window, the color at the cursor position becomes the Black Level setting. At this time, when you drag and then release the mouse, the lightest color in the enclosed area becomes the Black Level setting.

Edge Sharpening ..... To sharpen the boundary between the background and the data, enable this parameter. If you want to perform high resolution scanning or if background speckles increase, disable this parameter.

When Output is 8-bit Color (Standard)

Reduction Method ..... Specify the method used to subject the image to eight-bit color depth reduction.

Closest Match ..... Data is scanned in as an eight-bit color image through the scanner.

Error Diffusion ..... Data is scanned in as a 24-bit color image through the scanner. The image is subjected to color depth reduction so that the color is viewed more naturally.

RGB ..... Used to change Gamma, Brightness, Contrast, White Point and Black Point to RGB elements. If RGB is selected, the red, green, and blue elements change simultaneously.

Gamma ..... Used to adjust the gamma value. If you set a large value here, intermediate-level areas will be scanned in as bright images.

Brightness ..... Specifies the image brightness. Increasing the specified value results in scanning as a brighter image.

Contrast ..... Used to adjust the contrast of the image. If you set a large value here, the image will be scanned in with a high contrast.

White Point..... The parts of the image that are closer to white than the specified value will be scanned in as white. The effect that can be expected is to make the background white. The smaller the setting, the greater the effect.

TIP

When using the Preview button to preview the scanned image, if you click the button and then the left mouse button in the ensuing Details window, the color at the cursor position becomes the White Point setting. At this time, when you drag and then release the mouse, the darkest color in the enclosed area becomes the White Point setting.

Black Point ..... The parts of the image that are closer to black than the specified value will be scanned in as black. The effect that can be expected is to make the data black. The larger the setting, the greater the effect.

TIP

When using the Preview button to preview the scanned image, if you click the button and then the left mouse button in the ensuing Details window, the color at the cursor position becomes the Black Point setting. At this time, when you drag and then release the mouse, the lightest color in the enclosed area becomes the Black Point setting.

Moire Pattern Removal Radius ..... This specifies the size of the radius for moire pattern removal. If you specify 0, moire pattern removal processing will not be performed. This function can be specified for the CS2000.

TIP

Specify this setting when scanning in a 24-bit color image from the scanner.

Moire Pattern Removal Strength ..... This specifies the processing strength for moire pattern removal. If you specify a large value, processing will be performed to a large extent. This function can be specified for the CS2000.

TIP

Specify this setting when scanning in a 24-bit color image from the scanner.

Modify Color After Scanning ..... If this setting is enabled, the **Modify Color** window is displayed after the document has been scanned and color reduction performed.

TIP

Please refer to Page 4-70 for the Modify Color window setting procedure.

Specify Color Modification Using a File ..... This specifies a file to which Modify Color settings were saved. If this setting is enabled, the Modify Color window is not displayed, and the colors are modified automatically.

Edge Sharpening ..... To sharpen the boundary between the background and the data, enable this parameter. If you want to perform high resolution scanning or if background speckles increase, disable this parameter.

CHECKPOINT

The above settings cannot be specified if the Color Reduction Method is Closest Match.

Express ..... Color processing is performed at the scanner to enable high-speed data transfer. If the image to be scanned in is a large image, the scanning speed is increased. If this setting is turned off, color processing is not performed at the scanner.
This setting cannot be specified for the CS1000 model.
For other models, it cannot be specified if the Color Reduction Method is Closest Match.

When Output is 8-bit Color (Optimized)

Reduction Method ..... Specify the method used to subject the image to eight-bit color depth reduction.

Closest Match ..... Data is scanned in as a 24-bit color image through the scanner. The image is subjected to eight-bit color depth reduction so that the color is optimized for the majority of documents.

For Maps/ Drawings ..... Data is scanned in as a 24-bit color image through the scanner. The image is subjected to the color depth reduction suitable for cases where the number of colors in use is small (e.g., maps, drawings).
Particularly, if 8 or a lower number is specified for the number of colors, the image will be subjected to a special process so that the necessary colors will remain.

Number of Colors ..... Specify the number of colors used for color depth reduction.

Saving the Palette After Scanning ..... Saves the palette created after the document has been scanned and color reduction performed. The saved palette can be used in the 8-bit color (Palette) scan mode. However, the results will not be the same as those obtained in 8-bit color (Optimized) mode.

RGB ..... When you have changed the Gamma, Brightness, Contrast, White Point or Black Point value, this function changes the red, green and blue components at the same time.

Gamma ..... Used to adjust the gamma value. If you set a large value here, intermediate-level areas will be scanned in as bright images.

Brightness ..... Specifies the image brightness. Increasing the specified value results in scanning as a brighter image.

Contrast ..... Used to adjust the contrast of the image. If you set a large value here, the image will be scanned in with a high contrast.

White Point ..... The parts of the image that are closer to white than the specified value will be scanned in as white. The effect that can be expected is to make the background white. The smaller the setting, the greater the effect.

TIP

When using the Preview button to preview the scanned image, if you click the button and then the left mouse button in the ensuing Details window, the color at the cursor position becomes the White Point setting. At this time, when you drag and then release the mouse, the darkest color in the enclosed area becomes the White Point setting.

Black Point ..... The parts of the image that are closer to black than the specified value will be scanned in as black. The effect that can be expected is to make the data black. The larger the setting, the greater the effect.

TIP

When using the Preview button to preview the scanned image, if you click the button and then the left mouse button in the ensuing Details window, the color at the cursor position becomes the Black Point setting. At this time, when you drag and then release the mouse, the lightest color in the enclosed area becomes the Black Point setting.

Moire Pattern Removal Radius ..... This specifies the size of the radius for moire pattern removal. If you specify 0, moire pattern removal processing will not be performed.

Moire Pattern Removal Strength ..... This specifies the processing strength for moire pattern removal. If you specify a large value, processing will be performed to a large extent.

Modify Color After Scanning ..... If this setting is enabled, the **Modify Color** window is displayed after the document has been scanned and color reduction performed.

TIP

Please refer to Page 4-70 for the Modify Color window setting procedure.

Specify Color ..... This specifies a file to which Modify Color settings were saved.
Modification Using a File If this setting is enabled, the Modify Color window is not displayed, and the colors are modified automatically.
Edge Sharpening ..... To sharpen the boundary between the background and the data, enable this parameter. If you want to perform high resolution scanning or if background speckles increase, disable this parameter.
Express ..... Color processing is performed at the scanner to enable high-speed data transfer. If the image to be scanned in is a large image, the scanning speed is increased. If this setting is turned off, color processing is not performed at the scanner.
This setting cannot be specified for the CS1000 model.

When output is 8-bit Color (Palette)

Palette ..... Selects the palette file for color reduction.
Edit Button ..... Displays the Edit and Save Palette window to enable editing of the palette files.
RGB ..... When you have changed the Gamma, Brightness, Contrast, White Point or Black Point value, this function changes the red, green and blue components at the same time.
Gamma ..... Used to adjust the gamma value. If you set a large value here, intermediate-level areas will be scanned in as bright images.
Brightness ..... Specifies the image brightness. Increasing the specified value results in scanning as a brighter image.
Contrast ..... Used to adjust the contrast of the image. If you set a large value here, the image will be scanned in with a high contrast.
White Point ..... The parts of the image that are closer to white than the specified value will be scanned in as white. The effect that can be expected is to make the background white. The smaller the setting, the greater the effect.

TIP

When using the Preview button to preview the scanned image, if you click the button and then the left mouse button in the ensuing Details window, the color at the cursor position becomes the White Point setting. At this time, when you drag and then release the mouse, the darkest color in the enclosed area becomes the White Point setting.

Black Point ..... The parts of the image that are closer to black than the specified value will be scanned in as black. The effect that can be expected is to make the data black. The larger the setting, the greater the effect.

TIP

When using the Preview button to preview the scanned image, if you click the button and then the left mouse button in the ensuing Details window, the color at the cursor position becomes the Black Point setting. At this time, when you drag and then release the mouse, the lightest color in the enclosed area becomes the Black Point setting.

Moire Pattern Removal Radius ..... This specifies the size of the radius for moire pattern removal. If you specify 0, moire pattern removal processing will not be performed.

Moire Pattern Removal Strength ..... This specifies the processing strength for moire pattern removal. If you specify a large value, processing will be performed to a large extent.

Modify Color After Scanning ..... If this setting is enabled, the Modify Color window is displayed after the document has been scanned and color reduction performed.

TIP

Please refer to Page 4-70 for the Modify Color window setting procedure.

Specify Color Modification Using ..... This specifies a file to which Modify Color settings were saved. If this setting is enabled, the Modify Color window is not displayed, and the colors are modified automatically.

Edge Sharpening ..... To sharpen the boundary between the background and the data, enable this parameter. If you want to perform high resolution scanning or if background speckles increase, disable this parameter.

Express ..... Color processing is performed at the scanner to enable high-speed data transfer. If the image to be scanned in is a large image, the scanning speed is increased. If this setting is turned off, color processing is not performed at the scanner.
This setting cannot be specified for the CS1000 model.

When Output is 24-bit Color

RGB ..... Used to change Gamma, Brightness, Contrast, White Point and Black Point to RGB elements. If RGB is selected, the red, green, and blue elements change simultaneously.

Gamma ..... Used to adjust the gamma value. If you set a large value here, intermediate-level areas will be scanned in as bright images.

Brightness ..... Specifies the image brightness. Increasing the specified value results in scanning as a brighter image.

Contrast ..... Used to adjust the contrast of the image. If you set a large value here, the image will be scanned in with a high contrast.

White Point ..... The parts of the image that are closer to white than the specified value will be scanned in as white. The effect that can be expected is to make the background white. The smaller the setting, the greater the effect.

TIP

When using the Preview button to preview the scanned image, if you click the button and then the left mouse button in the ensuing Details window, the color at the cursor position becomes the White Point setting. At this time, when you drag and then release the mouse, the darkest color in the enclosed area becomes the White Point setting.

Black Point ..... The parts of the image that are closer to black than the specified value will be scanned in as black. The effect that can be expected is to make the data black. The larger the setting, the greater the effect.

TIP

When using the Preview button to preview the scanned image, if you click the button and then the left mouse button in the ensuing Details window, the color at the cursor position becomes the Black Point setting. At this time, when you drag and then release the mouse, the lightest color in the enclosed area becomes the Black Point setting.

Moire Pattern Removal Radius ..... This specifies the size of the radius for moire pattern removal. If you specify 0, moire pattern removal processing will not be performed.

Moire Pattern Removal Strength ..... This specifies the processing strength for moire pattern removal. If you specify a large value, processing will be performed to a large extent.

Modify Color After Scanning ..... If this setting is enabled, the Modify Color window is displayed after the document has been scanned and color reduction performed.

TIP

Please refer to Page 4-70 for the Modify Color window setting procedure.

Specify Color Modification Using a File ..... This specifies a file to which Modify Color settings were saved. If this setting is enabled, the Modify Color window is not displayed, and the colors are modified automatically.

Edge Sharpening ..... To sharpen the boundary between the background and the data, enable this parameter. If you want to perform high resolution scanning or if background speckles increase, disable this parameter.

Express ..... Color processing is performed at the scanner to enable high-speed data transfer. If the image to be scanned in is a large image, the scanning speed is increased. If this setting is turned off, color processing is not performed at the scanner.
This setting cannot be specified for the CS1000 model.

File tab

File Name ..... Specify the file name of the image that is to be scanned in.

File Type ..... In the pull-down menu, select the type of file to save.

Auto-Assign Filename ..... The file name is automatically generated during scanning.

Direct Output to a File ..... Image data is immediately stored in the file without displaying the image.

Save as 24-bit Color ..... After the document is read, the data is automatically saved as 24-bit color data.

TIP

The file name is automatically generated when a number is appended to the right end of the file name that was saved using this setting. The automatically generated file name is the same as the previous file name except that the appended number is incremented by 1.
The number is incremented until the maximum limit is reached, and then reverts to zeroes.

Options tab

Scan Speed ..... To scan a soft (limp) document or reduce the load on the document, select **Low**. (Usually set to **Standard**). If you select **Low** for **Scan Speed**, the document moving speed and the scanning speeds for bilevel, halftone, and gray scale image data will be reduced.

High Speed Scanning ..... If you check this box, the scanning speed will be doubled. If the specified resolution is 400 dpi or more, enabling this option causes the scanner to scan the document at half the resolution of the specified value. In this case, the data will be generated later by the software.

CHECKPOINT

If you enabled **High Speed Scanning**, the image size may become smaller than that of usual scanning.

Batch Scan ..... If you enable this option, document scanning will operate continuously, thereby saving time. The documents submitted to batch scanning must be uniform in image quality so that it will not be necessary to adjust the scanning settings for each document.

TIP

When you enable **Batch Scan**, enable **Auto-Assign Filename** in the **File** tab. Neither **Continuous Scan** nor **Manual Loading** is available.

Continuous Scan ..... If you enable this parameter, document scanning will operate continuously without closing the Scan window.

TIP

When you enable **Continuous Scan**, enable **Auto-Assign Filename** in the **File** tab. **Batch Scan** is not available.

Manual Loading ..... Enable this parameter if you want to scan in thin or large documents.
If you enable this parameter, documents will not be fed automatically. If you disable it, documents will be fed automatically.

Delay Time ..... Required if document feed is initiated automatically. Set the delay time from when the document touches the sensor switch of the scanner to when the feed is actually initiated. (In 0.1-s increments). If, for example, you set “15” for the delay time, feed is initiated 1.5 seconds after the document touches the sensor switch.

Auto Eject ..... This section lets you control how the document is to be moved after being scanned.

- None ..... The document is not ejected and stops at the position where scanning ends.
- Eject to Front ..... The document is ejected to the front of the scanner.
- Eject to Back ..... The document is ejected to the back of the scanner.
- Front ..... The document is fed to the front of the scanner.
- Back ..... The document is fed to the back of the scanner.

Mail tab

The Mail tab is only displayed for the CS2000 scanner.

Send Mail After Scan ..... Sends the image file scanned in an email to the address specified in Recipient. This option can be specified when Save File Directly is selected on the File tab.

Send to ..... Enter the mail address of the recipient. Multiple email addresses cannot be specified.

Divided File Size ..... Specifies the size for sending files in a single email. Files are divided and sent as multiple emails when they cannot be sent as a single email. In this case, it may not be possible to receive the emails using normal email software. Special email software is supplied on the Scanning Master Pro Color disk.

TIP

Increasing the size of data sent in a single email increases the burden on networks and email servers, and in the worst case may cause the network or email server to crash. The size will vary depending on the network conditions, but data should normally be kept below 1 MB.

Email transmission status

File names and transmission information are listed in the middle of the G-Flash Sender window. The circles on the far left indicate the reception status.

Yellow : Transmission in progress
Blue : Transmission complete
Red : Stopped due to error

To cancel the transmission, right-click the file name in the list and select “Cancel.”
To display detailed information, right-click the file name in the list and select “Information.”
To resend files stopped due to an error, right-click the file name in the list and select “Resume.”

Error List

- Cannot open work file.
- Cannot write to work file.
  There is insufficient work folder disk space. Cancel transmission and either free more disk space or change the work folder using the settings in the file-transmission application, and resend.
- Cannot log in. Check the login ID and password.
  Cancel transmission and check the email settings in the file-transmission application.
- Timed out.
  There was no response from the destination. Check that G-Flash Receiver is running at the destination, right-click the file name in the list, and select “Resume.”
- No response from server.
  There may be a problem with the network line. Check the connection.
- Cannot open file to be transmitted.
  The file to be transmitted does not exist.
  Cancel transmission and resend using the file-transmission application.
- Cannot read file to be transmitted.
  The file to be transmitted is read-protected.
  Check the file to be sent, right-click the file name in the list, and select “Resume.”
- Insufficient memory
  Cancel transmission and increase the available memory.
- Cancelled by destination.
  The transmission was cancelled by the destination. To resend, right-click the file name in the list and select “Resume.”

3.4 Scanner Adjustment

You should set the adjustment features if you want to approximate the accuracy of the scanned-in drawing to that of the original. (Fine-tuning the accuracy, depending on the quality of the document.)
Usually this adjustment is unnecessary.
You can adjust the scanner (**Distance Correction**, **Joint Fine-adjustment**, and **Trapezoidal Correction**) by selecting the **Tools** menu > **Adjust Scanner**.
The settings that can be specified vary according to the scanner model.

Distance Correction

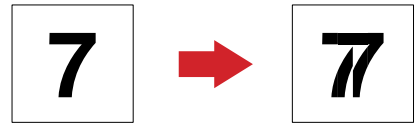
Corrects distances as appropriate for the type of document.
The setting may be within approximately ±1%. It is effective until the scanner is powered off.
To use the **Distance Correction** function, you must first measure a vertical line drawn on the document using the following procedure:

(1) Select a document that contains one or more drawn vertical lines. Scan it in at 600 dpi in portrait orientation.
(2) Measure the length of the vertical line on the document. Define it as x (**Distance Measured on Document**).
(3) Using the **View** menu > **Relative Measure** > **Distance between Specified Points**, measure the length of the corresponding vertical line in the image data. Define it as y (**Distance Measured after Scanning**).
(4) In the Scanner Adjustments window, click the **Distance Correction** button in **Adjustments**. The **Distance Correction** window appears.
(5) Type in the **Distance Measured on Document** x and **Distance Measured after Scanning** y values. These values must be within the range of distance correction.
(6) Click the **OK** button to calculate the corrections. Distance correction will take effect from the next document scanned.

Joint Fine-adjustment

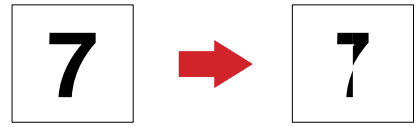
The IS3100/CS1100EV use three rows of sensors. The CS1000/CS1000EV/CS2000 use five. In rare cases, there may be one or two overlapping or missing pixels in the data at a joint between the rows of sensors.

Overlapped data



Original Document　　Data overlaps

Missing data



Original Document　　Data is missing

In either of these cases, finely adjust the sensor-to-sensor joints using the following procedure:

(1) In the **Scanner Adjustments** window, click the **Joint Fine-adjustment** button in **Adjustments** to open the **Joint Adjustment** window.
(2) Finely adjust each of the joints.
For overlapping pixels in the data at a joint, set a negative value. For missing pixels, set a positive value.
Usually set 0 (0 is the factory default) for the joints.
(3) Once you have completed the settings, click the **OK** button.

Trapezoidal Correction

Corrects fine deformations, or shifts, in the direction of feed caused by the scanner feeding mechanism.
If two lines of the same original length in the left and right areas, respectively, of a drawing are scanned in as lines of different lengths, you can adjust the lengths according to the longer line.

CHECKPOINT

This function is only effective when a document of the same document quality and of the same size as the document used for making the following settings are scanned in under the same conditions as for that document. (This function is usually set to off.) Even if it is off, image data can be scanned in with the accuracy guaranteed for the scanner. If you use the scanner after incorrect settings have been made using this function, the accuracy may be lowered.
To turn off **Trapezoidal Correction**, select the **Tools** menu > **Adjust Scanner** and click the **Trapezoidal Correction** button in Adjustments. Then, in the **Trapezoidal Correction** window, set the **Document width**, **Length of left side**, or **Length of right side** to 0 (zero).

To use the **Trapezoidal Correction** function, you must first measure a rectangle drawn on a document using the following procedure:

(1) Prepare a document of the same quality and of the same size as the drawing to be scanned in. It must contain the largest possible drawn rectangle (e.g., frame around the drawing). With **Trapezoidal Correction** off, perform scanning under the same conditions.
(2) Select the **View** menu > **Relative Measure** > **Distance between Specified Points**, and measure the lengths of the left, right, and top sides.
(3) In the **Scanner Adjustments** window, click the **Trapezoidal Correction** button in **Adjustments**. The **Trapezoidal Correction** window appears.
(4) Type the lengths of the top, left, and right sides of the rectangle in **Document width**, **Length of left side**, and **Length of right side**, respectively.
(5) Click the **OK** button. The scanner is set to correct the deformations, or shifts, that are caused by its feeding mechanism.

4. IMAGE DATA MANIPULATION

This chapter describes how to display and manipulate image data and perform basic editing functions using Scanning Master Pro Color.

This chapter consists the following sections:

- **Window Overview**

  Provides an overview of the window functions.

- **Basic File-related Operations**

  Describes the basic file operations such as opening an image file, saving an image file, and changing the file format.

- **Printing Image Data**

  Describes how to print scanned-in image data.

- **Viewing the Image**

  Describes how to vary the image view (e.g., scroll, zoom.)

- **Using the Editing Functions**

  Describes how to erase part of an image and cancel the previous operations.

- **Using Page Functions**

  Describes how to add, insert, and delete pages.

- **Other Image Editing Functions**

  Describes how to remove speckles from the image, correct any image skew, and crop the outside of the frame. Also, describes how to set the extension of the default for a file format.

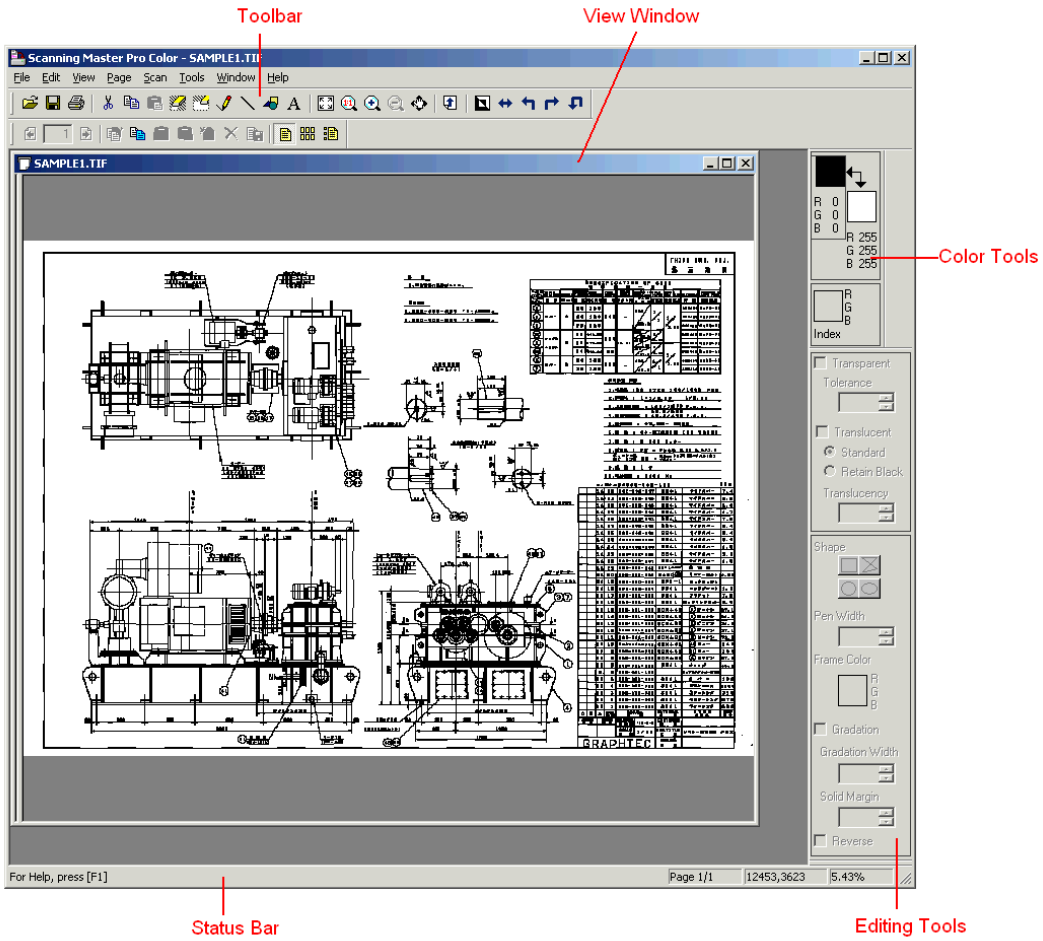
- **Image Measurement**

  Details image measurement.

4.1 Window Overview

Starting the Scanner

(1) Make sure that the scanner is connected to the computer and the power to it is off. Then turn on the scanner.
(2) Turn on the computer.
(3) Windows starts up.
(4) Locate the Scanning Master Pro Color icon. To do so, click the Start button and select Programs and the Scanning Master Pro Color folder in that order. The icon is located there.
(5) Click the **Scanning Master Pro Color** icon.



Maximize the window

To maximize the work area, click the Maximize button at the middle of the top right corner of the window (i.e., the rectangle with a thick top bar).

Toolbar

The toolbar is located above the application window and just under the menu bar. On the toolbar, you can operate many tools used in Scanning Master Pro Color by clicking them with the mouse. To show or hide the toolbar, select the **View** menu > **Toolbar** command.
The above view of the toolbar shows the initial settings. It can be customized by selecting the **Tools** menu > **Customize** command (see Section 4.7, "Other Image Editing Functions").

- **Below is a brief description of the button functions:**

Open
Opens an existing image file. Once the Open window appears, select the file you want to open.

Save
Saves the latest version of the on-screen image file, with the previous version overwritten. If you have not named the file yet, the Save As window appears.

Print
Prints the contents of the image file.

Cut
Cuts the area you selected and saves it in memory.

Copy
Copies the selection and saves it in memory.

Paste to Current Window
Pastes the data in memory to the cursor position.

Rubout
Rubs out part of the image with background color.

Erase Area
Paints the selection in background color.

Revise
Retouches the drawing in foreground color.

Line
Draws a line in the foreground color.

Fill
Fills in shapes.

Text
Adds text strings.

Fit
Displays the whole image so that it fits in the current window.

1:1
Displays the image as normal size, with one dot representing one pixel.

Zoom In
Zooms in on the image.

Zoom Out
Zooms out the image.

Move
Moves the displayed area of the image.

Scan
Displays the Scan window.

Invert
Inverts the image color.

Mirror
Inverts the image on the vertical axis.

Rotate 90° CCW
Rotates the image 90 degrees counterclockwise.

Rotate 90° CW
Rotates the image 90 degrees clockwise.

Rotate 180°
Rotates the image 180 degrees.

- **Below is a brief description of the other button functions:**

Thumbnail View
Displays the saved images as thumbnails.

Search for files
Searches for files.

Page Setup
Displays the **Page Setup** window that lets you set the print document size, the page orientation, and the magnification.

Undo
Undoes the previous editing action and returns the image to the previous version.

Redo
Restores the last edit you undid with Undo.

New Image
Creates an image window in which you view the data contained in memory as a new image.

Transparent Background
With the background color as a transparent color, pastes the data in memory to the cursor position.

Position Text Using Line
Places text on a line.

Extend Line
Draws an extension line.

Select Color
Selects a color from the image for use as the drawing color.

Bird's Eye
Shows or hides the overview that is used, for example, for zooming in on the image.

Zoom
Displays a detailed view of a zoomed portion of the area that currently contains the cursor.

Loupe
Turns on or off the Loupe Mode in which the surroundings of the cursor position are zoomed.

Image Info
Displays the window that lists detailed information about the image.

Measure
Measures a relative point-to-point distance based on the current magnification and resolution.

Load Settings 1 to 16
Loads the existing scanner settings.

Undo (tool)
Undoes the previous raster action, such as despeckling, deskewing, cropping, or resizing. This operates only once for each action.

Despeckle
Removes remaining speckles from the background of the image.

Deskew
Corrects image skew.

4-point Correction
Corrects image distortion.

2-point Correction
Corrects image dimensions.

Crop Outside of Frame in A0-Landscape to B4-Landscape
Crops the outside of the frame in the size you specified.

Crop Outside of Frame in A0-Portrait to B4-Portrait
Crops the outside of the frame in the size you specified.

Crop Outside of Frame in User 1 to 4 Size
Crops the outside of the frame in the size you registered.

Crop Outside of Specified Frame
Crops the outside of a desired frame you defined.

Crop Outside of Frame in Current Size
Crops the outside of the frame in the current size.

Resize
Resizes the on-screen image.

Link
Links two images.

Adjust (Not available for bilevel data)
Adjusts the image brightness and contrast.

Reduce Colors to Bilevel (Not available for bilevel data)
Converts the image to bilevel.

Grayscale (Not available for grayscale data)
Converts the image to grayscale.

Increase Colors to 8-bit Color (Available for bilevel and grayscale data only)
Converts the image to 8-bit color.

Reduce Colors to 8-bit Color (Available for 24-bit color data only)
Converts the image to 8-bit color.

Increase Colors to 24-bit Color (Not available for 24-bit color data)
Converts the image to 24-bit color.

Smoothing (Available for grayscale and 24-bit color data only)
Averages pixel data values with those of nearby pixels.

Select Area (Not available for bilevel data)
Selects the area for performing Adjust, Smoothing, Enhance Edges, Delete Color, Modify Color, or Extract Color.

Enhance Edges (Available for grayscale and 24-bit color data only)
Enhances the image data edges.

Edit and Save Palette (Available for 8-bit color data only)
Edits and saves the color palette.

Delete Color (Available for 8-bit and 24-bit color data only)
Deletes a specified color within the image data.

Modify Color (Available for 8-bit and 24-bit color data only)
Modifies a specified color within the image data.

Extract Color (Available for 8-bit and 24-bit color data only)
Extracts a specified color within the image data.

Page Toolbar

Previous Page
Displays the previous page of a multi-page image.

Jump
Displays a specified page of a multi-page image.

Next Page
Displays the next page of a multi-page image.

Cut Page
Cuts and stores the selected page of a multi-page image.

Copy Page
Copies and stores the selected page of a multi-page image.

Before
Inserts the stored page in front of the current image page.

After
Inserts the stored page after the current image page.

New Window
Creates a new image data window for the stored page.

Delete Page
Deletes the selected page of a multi-page image.

Save Page
Saves the current page of a multi-page image as a separate file.

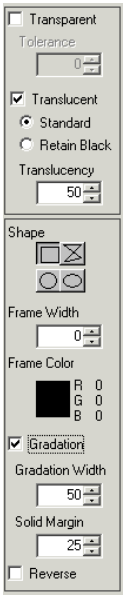
Full Page View
Displays the image in page-by-page format.

Reduced Size View
Displays the image as reduced size images.

Page and Reduced Size View
Displays the current image together with reduced size images.

Editing Tools

Normal



When Extend Line is selected

The Editing tools are normally displayed on the right-hand side of the application window, directly beneath the Color Tools. Click the tool required for editing images within Scanning Master Pro Color.
To hide or display the Editing tools, select **Editing Tools** in the **View** menu.
The button functions are summarized below.

Pen Width

Sets the width of pixels used for Rubout, Revise, Line, and Extend Line in the Edit menu.

Frame Width

Specifies in pixels the width of the frame used for Fill in the Edit menu.

Frame Color

Specifies the color of the frame used for Fill in the Edit menu. Click this button to display the color selection window for grayscale or 8-bit color images. The colors available for the current image are shown, allowing the desired color to be selected. In the case of 24-bit color images, the color setting window is displayed, allowing any color to be specified. For bilevel monochrome, black and white are reversed.

Shape

Specifies the shape used for Cut, Copy, Erase Area, and Fill in the Edit menu.

Rectangle

Left-click two points. The area is defined by the rectangle containing them as opposite vertexes.

Polygon

Define the vertexes of the polygon by left-clicking. Double-click on the last vertex to determine the area.

Circle

Define the center of the circle by left-clicking. Move the mouse until a circle of the desired size is obtained. Left-click there again to determine the area.

Ellipse

Define the center of the ellipse by left-clicking. Move the mouse until an ellipse of the desired size is obtained. Left-click there again to determine the area.

Transparent

Available for the Revise, Line, Fill, and Extend Line functions (except for bilevel data). When Transparent mode is on, the color specified as the background color is replaced by the foreground color. A tolerance can be set for the color to be replaced (i.e., for the background color).

TIP

Setting the allowable range to “0” replaces only the color specified as the background color.
Setting the allowable range to “20” replaces those colors with RGB values differing from the background color by up to ±20.
Setting the allowable range to “255” replaces all colors.

Tolerance

Specifies the allowable range of the background color used in Transparent mode.

Translucent

Available only when Fill is selected in 24-bit color. When Translucent mode is on, the foreground is filled semi-transparently. Setting a high translucency increases, and setting a low translucency decreases opacity. Translucency can be specified between levels of 0 and 100.

Translucency

Specifies the translucency used in Translucent mode.

Standard

Mixes the foreground and base colors according to translucency.

Retain Black

Mixes the foreground and base colors while retaining the dark colors.

Gradation

Fills objects using a gradation that grows lighter towards the center. This can only be specified when Translucent mode is selected in Fill.

Gradation Width

Specifies the fill width when using the gradation filling. Gradation is used to fill the distance of the width specified from the inside of the frame. Areas not within the gradation width will not be filled. Gradation is applied from the Translucency value specified to 100; Translucency can be specified between 0 and 100.

Solid Margin

Specifies the solid margin width when using gradation filling. The solid margin width within the gradation width is filled without using gradation, while the remainder of the gradation width is filled using gradation.

Reverse

Reverses the gradation direction when using gradation filling. Objects are filled using gradation that grows darker towards the center. Areas not within the gradation width will be filled using the Translucency value specified.

Type

Specifies the type of line for Extend Line on the Edit menu. This is only displayed when Extend Line is selected.

Height

Specifies the height in mm of Extend Line arrows on the Edit menu. This is only displayed when Extend Line is selected.

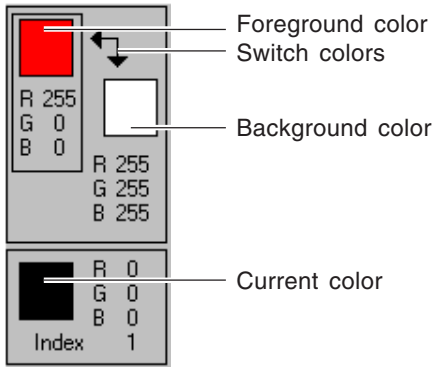
Width

Specifies the width in mm of Extend Line arrows on the Edit menu. This is only displayed when Extend Line is selected.

Status Bar

When you select a menu command or a button on the toolbar, the Status Bar displays a brief description of the command, the current page and the total number of pages, the cursor position, and the magnification ratio of the image data displayed.
To show or hide the Status Bar, select the **View** menu > **StatusBar** command.
While the Status Bar is on-screen, a check mark is located next to this command name.
The Status Bar is shown at the bottom of the Scanning Master Pro Color window.

Color Tools



The Color Tools are normally displayed on the right-hand side of the application window. These tools are used to specify the colors when editing in Scanning Master Pro Color.

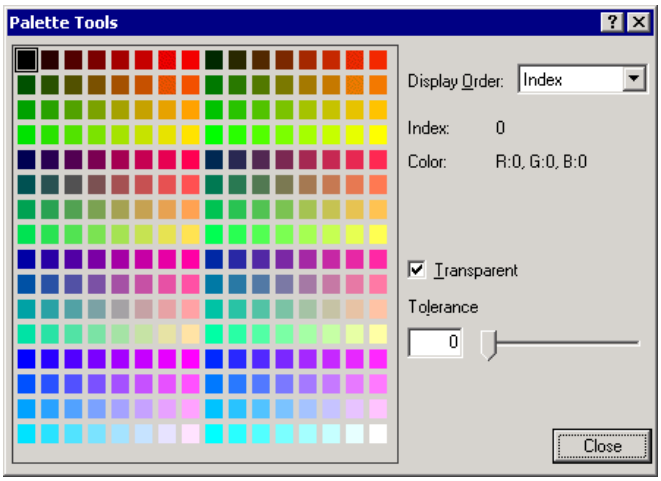
The specified foreground and background colors are displayed, along with the color at the current mouse cursor position. If edit commands are in use, a frame is displayed around the foreground or background colors. The color enclosed in the frame is the color currently being edited. To hide or display the Color Tools, select the **Color Tools** command in the **View** menu. The button functions are summarized below.

Foreground color ..... Specifies the foreground color used for **Revise**, **Line**, **Fill**, **Text**, and **Extend Line** in the Edit menu. Clicking this button for grayscale or 8-bit color images displays the **Select Color** window. Colors can be selected from among the available colors displayed for the current image. For 24-bit color images, the **Color** window will be displayed, allowing the desired color to be set.

Background color ..... Specifies the background color to be pasted as the transparent background color used for **Revise**, **Line**, **Fill**, and **Extend Line** for Transparent mode in the Edit menu, as well as for **Deskew**, **4-point Correction**, **2-point Correction**, **Crop**, and **Link** in the Tools menu. Clicking this button for grayscale or 8-bit color images displays the **Select Color** window. Colors can be selected from among the available colors displayed for the current image. For 24-bit color images, the **Color** window will be displayed, allowing the desired color to be set.

Switch colors ..... Clicking this button switches the foreground and background colors. This button should be used to change the foreground and background colors for bilevel images.
Current color ..... Displays the color of the pixel at the current cursor position.

Palette Tools (for 8-bit color)



Sets the colors and transparent mode that may be used when editing in Scanning Master Pro Color.
The Palette Tool Command on the **View** menu can be selected to display or hide the **Palette Tools** window.

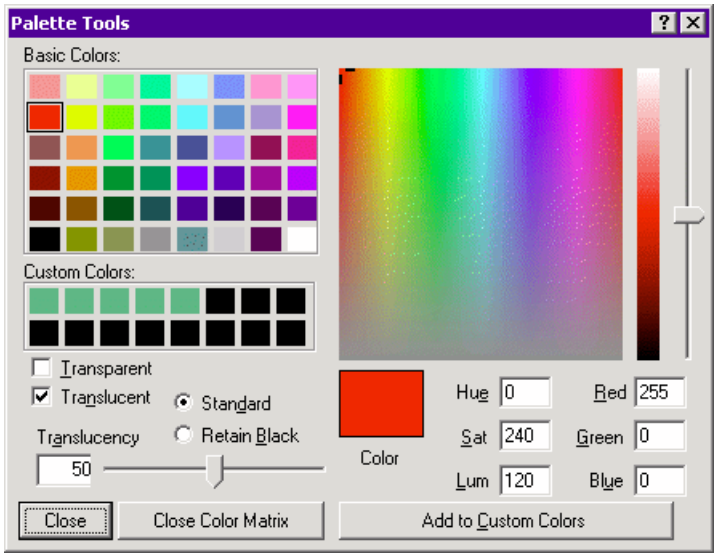
The functions included are described below.

Display Order ..... Changes the palette display order.
Index ..... Displays the number of the color currently selected.
Color ..... Displays the RGB value of the color currently selected.
Transparent ..... Sets **Transparent** mode.
Tolerance ..... Sets the tolerance for the background color used in **Transparent** mode.
Close ..... Closes the Palette Tools window.

TIP

For more information on Transparent mode, refer to Editing Tools on page 4-8.

Palette Tools (for 24-bit color)



Sets the colors, transparent mode, and translucent mode used when editing in Scanning Master Pro Color.
When editing commands are used, the color set in **Color** is applied to the current editing process. To undo color changes, select the **Undo** command on the **Edit** menu.
The **Palette Tool** command on the **View** menu can be selected to display or hide the Palette Tools window.

The functions included are described below.

Basic Colors ..... Displays the basic colors that may be used.
Click on the basic color closest to that required, and then use the color matrix to define the desired color.

Custom Colors ..... Displays colors that have been custom-defined.
To change a defined color, click on the color, and then click on Define Custom Colors. Once changed, click Add to Custom Colors.

Define Custom Colors ..... Click to display the color matrix, which permits the definition of colors as desired. To define a particular color, click inside the color matrix, and then click Add to Custom Colors.
Colors can be defined by entering values for Hue, Saturation, Luminosity, Red, Green, and Blue before clicking Add to Custom Colors.

Close Color Matrix ..... Click to hide the color matrix.

Color ..... Displays the selected color in the color matrix and specified in Custom Colors.

Add to Custom Colors ..... Adds defined colors to Custom Colors.

Hue ..... Specifies the hue of the color. When the hue is changed, the red, green, and blue values also change accordingly. Hue can be set between 0 and 239.

Saturation ..... Specifies the saturation of the color. Saturation indicates the chroma of the color. The maximum value is 240. Increasing the value brings the color closer to a pure color.

Luminosity ..... Specifies the luminosity of the color. Luminosity indicates the brightness of the color. It can be set between 0 (black) and 240 (white). If Saturation is set to 0, the luminosity specifies the grayscale brightness.

Red ..... Specifies the amount of red included in the color. The desired color can be defined by mixing the red, green, and blue values.

Green ..... Specifies the amount of green included in the color. The desired color can be defined by mixing the red, green, and blue values.

Blue ..... Specifies the amount of blue included in the color. The desired color can be defined by mixing the red, green, and blue values.

Transparent ..... Sets **Transparent** mode.

Tolerance ..... Sets the tolerance for the background color used in **Transparent** mode.

Translucent ..... Sets **Translucent** mode.

Translucency ..... Sets the translucency used in **Translucent** mode.

Standard ..... Sets the method used in **Translucent** mode to **Standard**.

Retain Black ..... Sets the method used in **Translucent** mode to **Retain Black**.

Close ..... Closes the Palette Tools window.

TIP

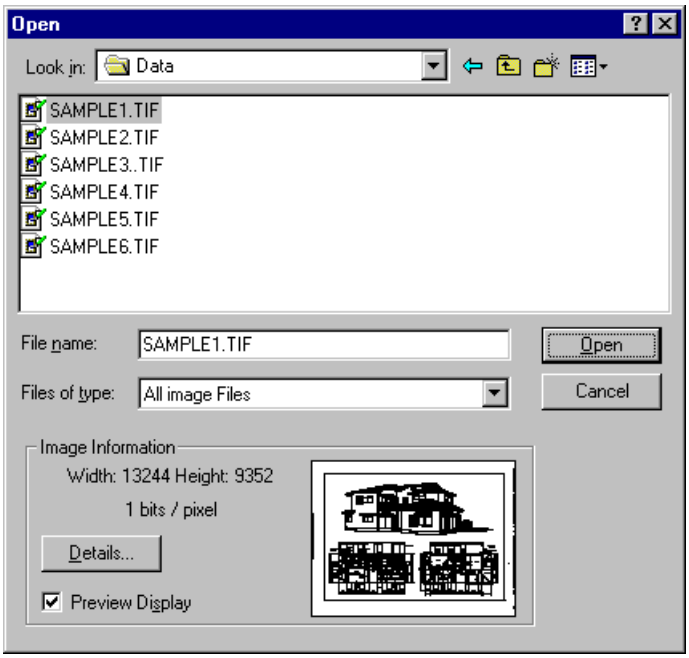
For more information on Transparent mode and Translucent mode, refer to Editing Tools on page 4-8.

4.2 Basic File-related Operations

Opening an Image File

(1) On the **Toolbar**, click the **Open** button, or select the **File** menu > **Open**.

The window used to open an image file appears.



(2) Settings in the Open window

(a) Specify the folder in which the image file is to be opened in the **Look in** pull-down list.

(b) Using the **Files of type** list, you can restrict the file types listed in the **File name** list. To list all types of files, select “All Files” in the **Files of type** list. For raster files, the **Files of type** list only contains files with the extension you specified on the File Settings tab in Options.

(c) **Image information** displays information (height, width, and bits per pixel) for the image file selected. Clicking the **Details** button displays detailed information for the image file selected. The **Preview** window can be displayed or hidden by checking or unchecking the **Preview Display** checkbox.

(3) Opening a file

Either double-click the filename in the **File name** list, or click the filename in the **File name** list and then click the **Open** button with the desired file selected.

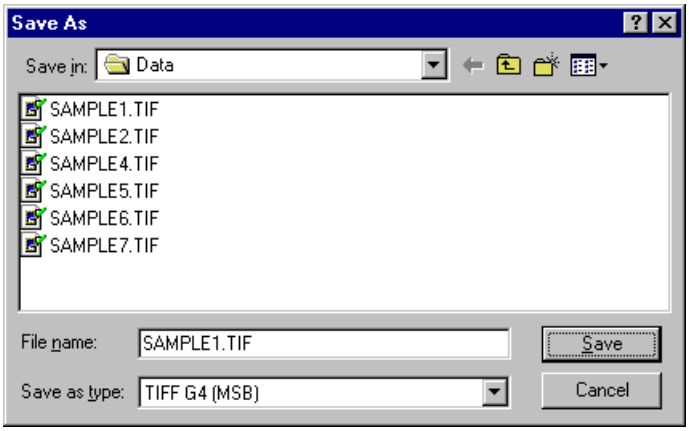
Saving an Image File

(1) Select the window in which the image you want to save is on-screen.
(2) On the toolbar, click the **Save** button, or select the **File** menu > **Save**.

Changing the File Name, Folder, or File Format

(1) If you want to change the folder, file name, or file format before saving the file, select the window in which the image is on-screen.
(2) Select the **File** menu > **Save As**.

The Save As window opens.



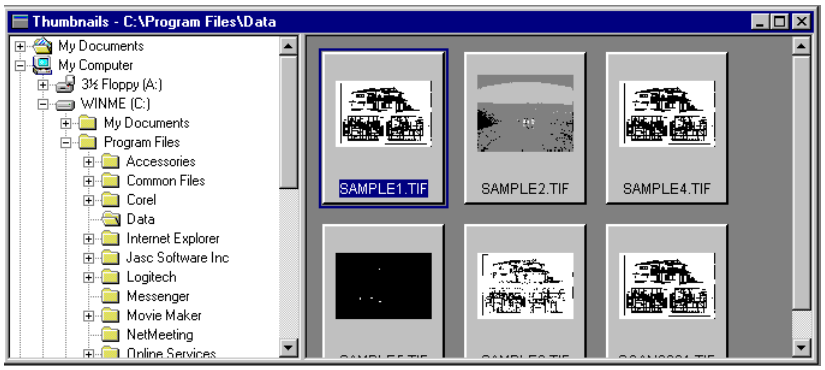
(3) Settings in the **Save As** window
  (a) To save the image in a different file format, select the new format from the **Save as type** list.
  The extension of the new file format will change to the default character string.
  The default extension for the file format can be specified on the **Tools** menu > **Options** > **File Settings** tab.
  (b) To save the image under a different file name, type the new name in the **File name** box. The file will be renamed.
  (c) To save the image in a different folder or drive, set the **folder** and **drive** in the **Save in** pull-down list.
(4) Click the **Save** button to save the file.

If Exif data (e.g. JPEGs taken using a digital camera) is opened and saved, information other than the image data (e.g. the photographic data) will not be saved.

Thumbnail View

On the Toolbar, click the **Thumbnail View** button, or select the **File** menu > **Thumbnail View**.

The Thumbnail view window opens.



The left-hand side of the Thumbnail view window is used for specifying the folder. Clicking a folder displays the thumbnails for images that can be opened in the right-hand window.

NOTE

Colors will not be displayed correctly unless the screen colors are set to True Color (24 bit). Note that a thumbnail display file called “SMBROWSE.DB” will be created in the thumbnail display folder.
Depending on the image data within the folder, it may take some time for all the images to be displayed.
To change a folder, select the folder to be displayed from the folder list on the left. Double-click the thumbnail displayed on the right to open the file. Thumbnail view method, size, and preview display on/off can be specified on the Options command Thumbnails tab in the Tools menu. Registering an application on the Options command Tools tab in the Tools menu allows the application to be launched by moving the mouse over the thumbnail in the Thumbnail view window and right-clicking, or by choosing it from the Tools menu.
It is possible to search within folders by selecting a folder from the folder list on the left-hand side and selecting the Search for Files command with the right mouse button.

The following menus are available in the Thumbnail view window.

File menu

Close ..... Closes the Thumbnail view window.
Refresh thumbnails ..... Refreshes the current folder thumbnail view.
Print ..... Prints the selected image .
Page settings ..... Sets the page layout and printer (plotter) selection and connection.

Image file menu

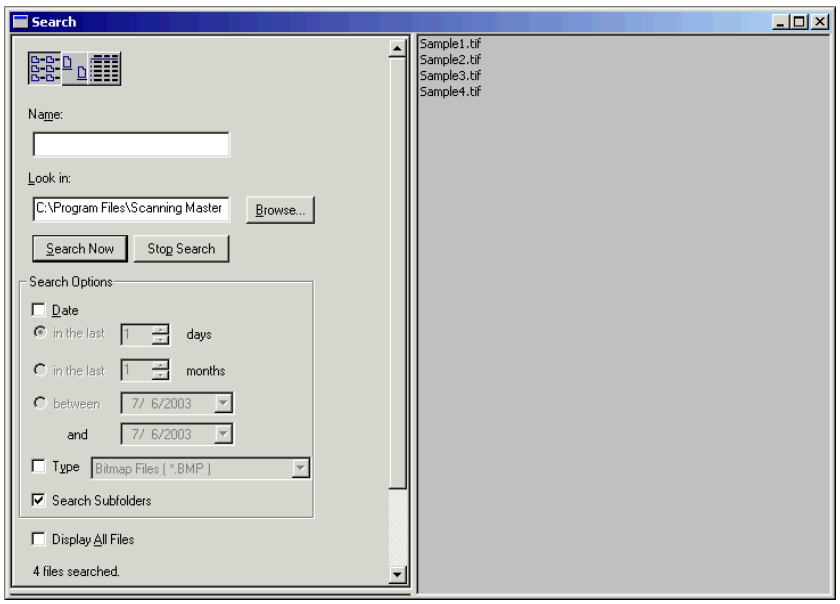
Copy ..... Copies the selected file to a different folder.
Delete ..... Deletes the selected file.
Move ..... Moves the selected file to a different folder.
Rename ..... Renames the selected file.
Information ..... Displays information on the selected files.
Open ..... Opens the selected file.

Search for Files

Searches for files

(1) On the toolbar, click the **Search for Files** button or select the **File** menu > **Search for Files**.

(2) The Search window appears.



(3) Use the left-hand side of the Search window to specify the search conditions.

Name ..... Enter the full name of the file to be searched for. When searching for a partial file name, enter "*". For example, to find all files beginning with "scan", enter "scan*".To find a file named "scan0001.tif", enter "scan0001.tif". If nothing is entered, the results will be the same as searching for "*".

Look In ..... Specifies the drives, folders, or networks to be searched. Either click the Browse button or enter the location to be searched directly.

Search Options

Date ..... Searches for files created or modified within a specified period. The period can be specified in a number of months or days, or from a specific date.

Type ..... Searches for files in the specified format. File formats can be selected from among those supported by Scanning Master Pro Color. See pages 1-1 for details.

Search Subfolders ..... Searches within subfolders in the search location specified.

Display All Files ..... Specifying this option displays file information in gray for those files searched which are not supported by Scanning Master Pro Color or which could not be loaded due to an error.

(4) Click the Search Now button to search for files with format extensions supported by Scanning Master Pro Color with the conditions specified.
(5) To cancel the search, either click the Stop Search button or press the ESC key.
(6) Once searching is complete, the information for the images found is displayed in the right-hand side of the window. Left-click the image information to select the file and display the preview image in the bottom left of the window. Double-click to open the file.

The search results can be displayed using one of the following three methods.
Select the method using the buttons at the top left of the search window.

View List
Displays file names

View Thumbnails
Displays image thumbnails

View Details
Displays image information such as file name, size, and date modified

TIP

Colors will not be displayed correctly unless the screen is set to True Color (24-bit).
- Up to 256 files can be searched for at once.
- Clicking on a column name in View Details sorts by that item.
- The thumbnail display method and size can be specified on the Options command Thumbnails tab in the Tools menu.
- Registering an application on the Options command Tools tab in the Tools menu allows the application to be launched by moving the mouse over the thumbnail in the Search window and right-clicking or by choosing it from the Tools menu.
- The preview display can be switched on or off on the Options command Thumbnails tab in the Tools menu.
- To cancel thumbnail generation, press the ESC key. To resume generating thumbnails, select the Update command in the File menu.

The following menus are available in the Search window.

File menu

Close ..... Closes the Search window
Update ..... Refreshes the current search results display; this resumes thumbnail generation if it was cancelled midway. To cancel refreshing of the search display, press the ESC key.
Print ..... Prints the selected image
Page Setup ..... Sets the page layout and selects the printer (or plotter) and connection

Image File menu

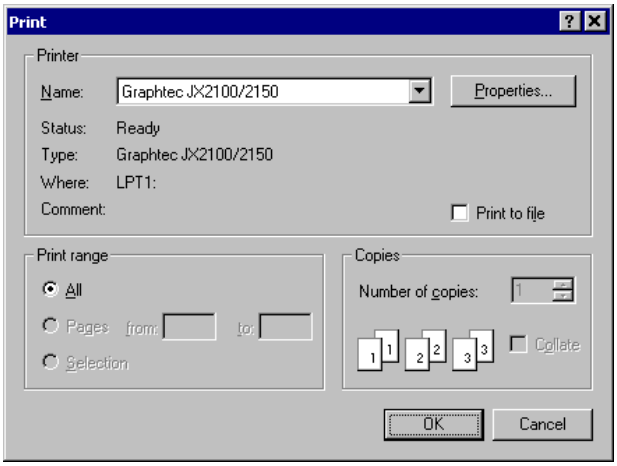
Copy ..... Copies the selected file to a different folder
Delete ..... Deletes the selected file
Move ..... Moves the selected file to a different folder
Rename ..... Renames the selected file
Information ..... Displays information for the selected file
Open ..... Opens the selected file

TIP

Registering an application on the Options command Tools tab in the Tools menu allows the application to be launched by moving the mouse over the thumbnail in the Thumbnail View window and right-clicking or by choosing it from the Tools menu.

4.3 Printing Image Data

(1) Open the window that contains the preview of the image to be printed.
(2) On the toolbar, click the **Print** button, or select the **File** menu > **Print**.



The Print window opens. Complete all the settings, and click the OK button to initiate printing.

TIP

After selecting the File menu > Page Setup, you can set the document size, the print orientation, and the magnification.
You should turn on Direct Output to Plotter in the Page Setup window, for example, if you want to output a long-length image on a Graphtec plotter or similar output equipment. Usually leave this check box off.

4.4 Viewing the Image

Scrolling the Image

If the image is scrollable, a scroll bar appears at both the right end and bottom. The scroll box in each scroll bar indicates the current position in the on-screen image. Using the mouse, you can scroll the image to move to the desired position in a hidden area.

Perform one of the following:

- Click the **Move** button on the toolbar, and then left-click on the image to drag it as desired.

- Select **Move** on the View menu, and then left-click on the image to drag it to the desired location.
- Press the <**F3**> key on the keyboard, and then left-click on the image to drag it to the desired location.
- Drag the horizontal or vertical scroll box.
- Click the scroll arrow at either end of a scroll bar.
- Click the scroll bar.
- Press the <←>, <→>, <↑>, or <↓> key on the keyboard.

Previewing the Whole Image

This function scales the on-screen image so that the whole image fits in the current window size.

Perform one of the following:

- On the toolbar, click the **Fit** button.

- Select the **View** menu > **Fit**.
- Press the <**F2**> key on the keyboard.

Viewing the Image at Pixel Level

This function displays the image at pixel level, associating one dot with one pixel on the screen. All the data can be displayed precisely.

Perform one of the following:

- Click the **1:1** button.

- Select the **View** menu > **1:1**.
- Press the <**Ctrl**> + <**1**> keys on the keyboard.

Zooming in on the Image

This function zooms in on the on-screen image, by a factor of 2 or 4, relative to the one-to-one view size.

- Select the **View** menu > **Zoom In**.

TIP

If you want to double the size of the image relative to the current one, click the Zoom In button once.

Zooming out the Image

This function zooms out the on-screen image, by a factor of 1/2, 1/4, 1/8, or 1/16, relative to the one-to-one view size.

- Select the **View** menu > **Zoom Out**.

TIP

If you want to zoom the image to half its current size, click the Zoom Out button once.

Bird's Eye Display

You can show or hide the Bird's Eye that is used to manipulate the on-screen image (for example, zooming in on the image).

- Select the **View** menu > **Bird's Eye**.
- Press the <**F6**> key on the keyboard.
- On the toolbar, click the **Bird's Eye** button.

TIP

You can show the Bird's Eye button by customizing the toolbar.

How to use the Bird's Eye Function

The Bird's Eye shows the overview of the on-screen image and what section of the overview is currently displayed in the on-screen image window.
In addition, you can control display of the on-screen image window through the Bird's Eye.

(1) Moving the display position
With the left mouse button, drag the view range in the overview to the desired position to display.

(2) Setting the display position and the magnification
With the right mouse button, drag the overview. Once the desired range to display the on-screen image window is obtained, release the button. To cancel setting of the view range, press the <**ESC**> key during drag.

Zoom Display

You can show or hide the Zoom function that is used to zoom the area located at the current cursor position.

- Select the View menu > **Zoom**.
- Press the <**F11**> key on the keyboard.
- On the toolbar, click the **Zoom** button.

TIP

You can show the Zoom button by customizing the toolbar.

How to use Zoom

Zoom displays the detailed view of a zoomed section in the area containing the current cursor position.

Setting the magnification

Left-click Zoom to make it active. Next, use the <**+**> key to zoom in on the view or the <**–**> key to zoom it out. For the magnification, you can select **1/16**, **1/8**, **1/4**, **1/2**, **1**, **2**, **4**, or **8**.

Loupe

You can turn on or off the Loupe Mode, which enables you to zoom in on the area around the cursor. If it is on, the view is zoomed in on while you are holding down the left mouse button in the image window. You can change the size and magnification for Loupe by using the Display Settings in the Tools menu > Options. In addition, you can change the magnification by pressing the <**+**> or <**-**> key while the image is currently zoomed in on.

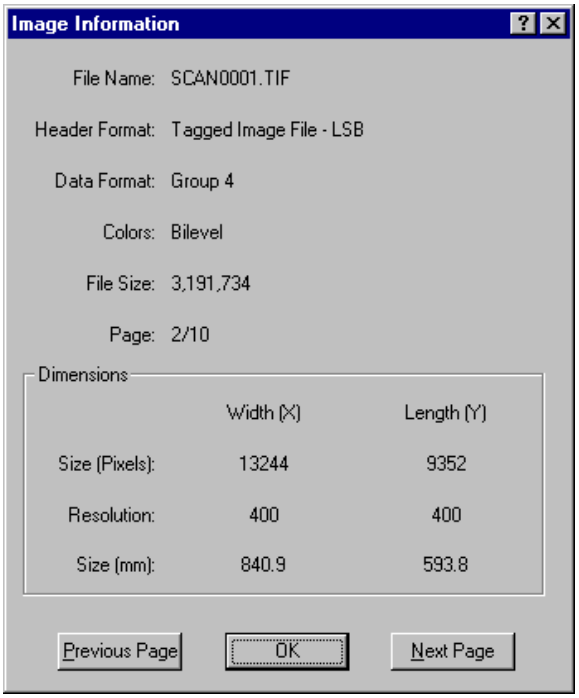
- Select the View menu > **Loupe**.
- Select the <**F12**> key on the keyboard.
- On the toolbar, click the **Loupe** button.

TIP

You can show the Loupe button by customizing the toolbar.

Image Info

You can display the window that lists detailed information about the on-screen image. Select the **View** menu > **Image Info**.



For multi-page images

Previous Page button..... Displays image information for the previous page.
Next Page button ..... Displays image information for the next page.
OK button ..... Displays the page corresponding to the image information displayed.

4.5 Using the Editing Functions

Image data can be edited easily using the function buttons on the Toolbar.

NOTE

The cursor form varies depending on the particular command operation or function. When the cursor appears as a crosshair, the center of the cursor is the point specified by the cursor.

Cut

The data you selected from the on-screen image is cut and saved in memory. Once it is cut, the existing memory contents are replaced by the new cut data.

To cut a specific area from the image, take the following steps:

(1) On the toolbar, click the **Cut** button, or select the **Edit** menu > **Cut**.

(2) Use the **Cut** tool as described below to select the region to be erased. The previously selected point can be deleted by pressing the <**ESC**> key.

(a) **Rectangle** : Click the left mouse button at two points. This selects a rectangle with the points at diagonally opposite corners.

(b) **Polygon** : Click the left mouse button at the points corresponding to the vertexes of the polygon. (The polygon is always closed.) Double-click the final vertex on the region to complete the selection.

(c) **Circle** or **ellipse** : Click the left mouse button at the center point of the region, and then move the mouse to specify the desired circle or ellipse size.

(3) Modify and enter the position and size.

Move ..... The mouse cursor changes to [**: Move**] when placed within the selected range, allowing the position to be moved by pressing the left mouse button and dragging.

Resize ..... The mouse cursor changes to [↘ : Resize in horizontal/vertical direction] when close to a corner handle in the selected range, allowing the size to be changed in the horizontal or vertical directions by pressing the left mouse button and dragging. If a polygon is selected, vertices can be deleted by pressing the right mouse button and selecting the vertices to be deleted from the menu displayed. If a rectangle, circle, or ellipse is selected, the mouse cursor changes to [↕ : Resize in vertical direction] or [↔ : Resize in horizontal direction] when close to a frame line in the selected range, allowing the size to be changed in the vertical or horizontal directions by pressing the left mouse button and dragging. If a polygon is selected, the mouse cursor changes to [: Add vertex] when close to a frame line between vertices, allowing a vertex to be added by pressing the right mouse button and selecting Add Vertex from the menu displayed.

Enter ..... Outside the selected range, the mouse cursor changes to the shape selected [ ], and is ready for selection of the first point (2) in the next cut operation. Upon selecting the first point of the next region, the size and position of the previous region are entered, and the contents within the selected range are deleted and stored in the memory.
Editing operations can also be accessed by right-clicking on the image and selecting Enter from the menu that appears.

(4) To quit using the **Cut** tool
To quit cutting, either click on the **Cut** button again on the Toolbar, or select **Cut** from the **Edit** menu. To quit during step (2), press the <**ESC**> key twice.
(Press the key once more than the number of points selected when using polygon)

TIP

The Cut Tool Shape (rectangle, polygon, circle, ellipse) can be selected using the Editing Tools.
The background color can be set using the Color Tools.

Copy

The data you selected from the on-screen image is copied and saved in memory. Once it is copied, the existing memory contents are replaced by the new copied data.

To copy a specific area from the image, take the following steps:

(1) On the toolbar, click the **Copy** button, or select the **Edit** menu > **Copy**.

(2) Use the **Copy** tool as described below to select the region to be erased. The previously selected point can be deleted by pressing the <**ESC**> key.
   (a) **Rectangle** : Click the left mouse button at two points. This selects a rectangle with the points at diagonally opposite corners.
   (b) **Polygon** : Click the left mouse button at the points corresponding to the vertexes of the polygon. (The polygon is always closed.) Double-click the final vertex on the region to complete the selection.
   (c) **Circle** or **ellipse** : Click the left mouse button at the center point of the region, and then move the mouse to specify the desired circle or ellipse size. Click the left mouse button again to complete the region selection.

(3) Modify and enter the position and size.
Move ..... The mouse cursor changes to [**: Move**] when placed within the selected range, allowing the position to be moved by pressing the left mouse button and dragging.

Resize ..... The mouse cursor changes to [↖↘ : Resize in horizontal/vertical direction] when close to a corner handle in the selected range, allowing the size to be changed in the horizontal or vertical directions by pressing the left mouse button and dragging. If a polygon is selected, vertices can be deleted by pressing the right mouse button and selecting the vertices to be deleted from the menu displayed.
If a rectangle, circle or ellipse is selected, the mouse cursor changes to [↕ : Resize in vertical direction] or [↔ : Resize in horizontal direction] when close to a frame line in the selected range, allowing the size to be changed in the vertical or horizontal directions by pressing the left mouse button and dragging.
If a polygon is selected, the mouse cursor changes to [: Add vertex] when close to a frame line between vertices, allowing a vertex to be added by pressing the right mouse button and selecting Add Vertex from the menu displayed.

Enter ..... Outside the selected range, the mouse cursor changes to the shape selected [ ], and is ready for selection of the first point (2) in the next copy operation. On selecting the first point of the next region, the size and position of the previous region are entered, and the contents within the selected range are saved.
Editing operations can also be accessed by right-clicking on the image and selecting Enter from the menu that appears.

(4) To terminate use of the **Copy** tool
Click the **Copy** button on the toolbar again, or select **Edit** > **Copy** again. To quit during step (2), press the <**ESC**> key twice.
(Press the key once more than the number of points selected when using polygon)

TIP

The Copy Tool Shape (rectangle, polygon, circle, ellipse) can be selected using the Editing Tools.

Paste

This function pastes the memory contents to the on-screen image. If the memory contains no data, this command is not available. Scanning Master Pro Color allows you to use one of three paste functions, depending on the circumstances.

New Image

An on-screen image window is created with the memory contents as the new image data. Click the **New Image** button on the toolbar, or select the **Edit** menu > **Paste** > **New Image**.

TIP

When pasting polygonal, circular, or elliptical image data, the area around the image will be the background color set when the image was copied or cut.

Current window

Pastes the contents of the memory at the cursor position.

The procedure for pasting a cut or copied region onto an image is as follows.

(1) To paste into a different window from the window in which the image was cut or copied, open the window in which the region is to be pasted.
(2) Click the **Current Window** button on the Toolbar, or select **Current Window** from **Paste** in the **Edit** menu.

(3) Hold down the left mouse button to display the image or region stored on the clipboard. You may quit the procedure by pressing the <**ESC**> key.
(4) Drag the contents of the clipboard to the desired location while holding down the left mouse button.
(5) Release the mouse button to specify the paste location.
(6) Modify and enter the position.

Move ..... The mouse cursor changes to [**: Move**] when placed within the selected range, allowing the position to be moved by pressing the left mouse button and dragging.

Enter ..... Outside the selected range, the mouse cursor changes to a crosshair, and is ready for the next pasting operation (3). After the next pasting position (3) is selected, the previous pasting position is entered, and the contents of the clipboard are pasted onto the image.

Editing operations can also be accessed by right-clicking on the image and selecting Enter from the menu that appears.

(7) To exit Paste tool

To quit pasting in the current window, either click the **Current Window** button once more on the toolbar, or select **Current Window** from **Paste** in the **Edit** menu.

Transparent Background

The contents of the clipboard are pasted at the cursor position. Unlike the **Current View** command, the clipboard contents are pasted with a transparent background color.

The procedure for pasting a cut or copied region onto an image is as follows.

(1) To paste into a different window from the window in which the image was cut or copied, open the window in which the region is to be pasted.
(2) Click the **Transparent Background** button on the Toolbar, or select **Transparent Background** from **Paste** in the **Edit** menu.

(3) Hold down the left mouse button to display the image or region stored in the memory. You may quit the procedure by pressing the <**ESC**> key.

(4) Drag the contents of the clipboard to the desired location while holding down the left mouse button.
(5) Release the mouse button to specify the paste location.
(6) Modify and enter the position.
Move ..... The mouse cursor changes to [**: Move**] when placed within the selected range, and the position can be moved by pressing the left mouse button and dragging.
Enter ..... Outside the selected range, the mouse cursor changes to a crosshair, and is ready for the next pasting operation (3). After the next pasting position (3) is selected, the previous pasting position is entered, and the contents of the clipboard are pasted onto the image.
Editing operations can also be accessed by right-clicking on the image and selecting Enter from the menu that appears.
(7) To exit Paste tool
To quit pasting with a transparent background, either click the **Transparent Background** button on the Toolbar, or select **Transparent Background** from **Paste** in the **Edit** menu.

TIP

The background color can be set using the Color Tools.

Extend Line

Draws an extended line on the image

(1) Click the **Extend Line** button on the Toolbar or select **Extend Line** in the **Edit** menu.

(2) Click with the left mouse button to enter the start point of the extended line.
(3) Move to the intermediate or end point of the extended line and click with the left mouse button to enter. Previously selected points can be deleted by pressing the <**ESC**> key. Entering the intermediate or end point while pressing the <**SHIFT**> key draws a horizontal, vertical, or 45° diagonal line.
(4) Modify and enter the position and size.
Move ..... The mouse cursor changes to [**: Move**] when placed close to the extended line, allowing the position to be moved by pressing the left mouse button and dragging.
Modify start point, intermediate point, or end point ..... The mouse cursor changes to [: **Modify position**] when placed close to the start point, intermediate point, or end point handles, allowing the position to be moved by pressing the left mouse button and dragging.

Enter ..... Away from the extended line, the mouse cursor changes to [: **Extend Line**], and is ready for selecting the next extended line start position (2). After the next extended line start position is selected, the previous extended line size and position are entered.
Editing operations can also be accessed by right-clicking on the image and selecting Enter from the menu that appears.

(5) To quit **Extend Line** drawing
Click the **Extend Line** button on the Toolbar again, or select **Extend Line** in the **Edit** menu. To quit during step (2), press the <**ESC**> key twice.
To quit during step (3), press the <**ESC**> key three times.

TIP

Transparent mode can be set using the Editing Tools.
The Extend Line type, size, and width can be specified using the Editing Tools. The Extend Line color can be specified as the foreground color in Color Tools, or by using Select Color in the Edit menu.

Select Color

Selects a color from the image and sets it as the foreground color.

(1) Click the **Select Color** button on the Toolbar or select **Select Color** in the **Edit** menu.

(2) Move the mouse cursor over to the color to be selected, and click with the left button.
(3) The selected color is assigned to the Foreground color button in Color Tools.
(4) To quit Select Color
Click the **Select Color** button on the Toolbar again, or select **Select Color** in the **Edit** menu.

Rubout

The desired area is erased in a manner similar to rubbing out with an eraser on the document.

(1) Click the **Rubout** button on the Toolbar or select **Rubout** in the **Edit** menu.

(2) Press and hold down the left mouse button to drag the **Rubout** tool and erase the image.

(3) To terminate use of the **Rubout** tool
Click the **Rubout** button on the Toolbar again, or select **Rubout** in the **Edit** menu.

TIP

The Rubout tool width can be specified using the Editing Tools. The area erased will be in the color specified as the background color.

Erase area

Specify the region on the image to be erased as a rectangle, polygon, circle, or ellipse.

(1) Click the **Erase Area** button on the Toolbar, or select **Erase Area** in the **Edit** menu.

(2) Use the **Erase Area** tool as described below to select the region to be erased. The previously selected point can be deleted by pressing the <**ESC**> key.
   (a) **Rectangle** : Click the left mouse button at two points. This selects a rectangle with the points at diagonally opposite corners.
   (b) **Polygon** : Click the left mouse button at the points corresponding to the vertexes of the polygon. (The polygon is always closed.) Double-click the final vertex on the region to complete the selection.
   (c) **Circle** or **ellipse** : Click the left mouse button at the center point of the region, and then move the mouse to specify the desired circle or ellipse size. Click the left mouse button again to complete the region selection.

(3) Modify and enter the position and size.
   Move ..... The mouse cursor changes to [**: Move**] when placed within the selected range, allowing the position to be moved by pressing the left mouse button and dragging.
   Resize ..... The mouse cursor changes to [↘ : Resize in horizontal/vertical direction] when close to a corner handle in the selected range, allowing the size to be changed in the horizontal or vertical directions by pressing the left mouse button and dragging. If a polygon is selected, vertices can be deleted by pressing the right mouse button and selecting the vertices to be deleted from the menu displayed.
   If a rectangle, circle or ellipse is selected, the mouse cursor changes to [↕ : Resize in vertical direction] or [↔ : Resize in horizontal direction] when close to a frame line in the selected range, allowing the size to be changed in the vertical or horizontal directions by pressing the left mouse button and dragging.
   If a polygon is selected, the mouse cursor changes to [: Add vertex] when close to a frame line between vertices, allowing a vertex to be added by pressing the right mouse button and selecting Add Vertex from the menu displayed.

Enter ..... Outside the selected range, the mouse cursor changes to the selected shape [ ], and is ready for selection of the first point (2) in the next Erase area operation. After the first point of the next region is selected, the size and position of the previous region are entered. The contents enclosed in the selected area will be erased.
Editing operations can also be accessed by right-clicking on the image and selecting Enter from the menu that appears.

(4) To terminate use of the **Erase Area** tool
Click the **Erase Area** button on the Toolbar again, or select **Erase Area** in the **Edit** menu.
To quit during step (2), press the <**ESC**> key twice.
(Press the key once more than the number of points selected when using polygon)

NOTE

The Erase Area tool shape (rectangle, polygon, circle, ellipse) can be selected using the Editing Tools. The erased area will be in the specified background color.

Revise

You can retouch the on-screen image in a manner similar to using a pencil on the document.

(1) Click the **Revise** button on the Toolbar or select **Revise** in the **Edit** menu.

(2) Press and hold down the left mouse button to drag the **Revise** Tool and retouch the image.
(3) To terminate use of the **Revise** tool
Click the **Revise** button on the toolbar again, or select **Revise** in the **Edit** menu.

NOTE

Transparent mode can be set using the Editing Tools.
The Revise tool color can be specified as the foreground color in Color Tools or by Select Color in the Edit menu. The Revise tool width can be specified using the Editing Tools.

Line

Draws a straight line on the image

(1) Click the **Line** button on the Toolbar or select **Line** in the **Edit** menu.

(2) Click with the left mouse button to enter the start point of the line, move to the end point of the line, and click with the left mouse button again to enter. The previously selected point can be deleted by pressing the <**ESC**> key. Entering the second point while pressing the <**SHIFT**> key draws a horizontal, vertical, or 45° diagonal line.

(3) Modify and enter the position and size.

Move ..... The mouse cursor changes to [**: Move**] when placed close to the line, allowing the position to be moved by pressing the left mouse button and dragging.

Modify start and end points ..... The mouse cursor changes to [**: Modify position**] when placed close to the start or end point handles, allowing the position to be moved by pressing the left mouse button and dragging.

Enter ..... Away from the line, the mouse cursor changes to [: **Line**], and is ready for selecting the next line start position (2). After the next line start position is selected, the previous line size and position are entered.

Editing operations can also be accessed by right-clicking on the image and selecting Enter from the menu that appears.

(4) To terminate use of the **Line** tool

Click the **Line** button on the Toolbar again, or select **Line** in the **Edit** menu. To quit during step (2), press the <**ESC**> key twice.

NOTE

Transparent mode can be set using the Editing Tools. The Line color can be specified as the foreground color in Color Tools, or by using Select Color in the Edit menu. The Line tool width can be specified using the Editing Tools.

Fill

Fills shapes on the image

(1) Click the **Fill** button on the Toolbar, or select **Fill** in the **Edit** menu.

(2) Use the **Fill** tool as described below to select the region. The previously selected point can be deleted by pressing the <**ESC**> key.

(a) **Rectangle** : Click the left mouse button at two points. This selects a rectangle with the points at diagonally opposite corners.

(b) **Polygon** : Click the left mouse button at the points corresponding to the vertexes of the polygon. (The polygon is always closed.) Double-click the final vertex on the region to complete the selection.

(c) **Circle** or **ellipse** : Click the left mouse button at the center point of the region, and then move the mouse to specify the desired circle or ellipse size. Click the left mouse button again to complete the region selection.

(3) Modify and enter the position and size.

Move ..... The mouse cursor changes to [**: Move**] when placed within the selected range, allowing the position to be moved by pressing the left mouse button and dragging.

Resize ..... The mouse cursor changes to [↖↘ : Resize in horizontal/vertical direction] when close to a corner handle in the selected range, allowing the size to be changed in the horizontal or vertical directions by pressing the left mouse button and dragging. If a polygon is selected, vertices can be deleted by pressing the right mouse button and selecting the vertices to be deleted from the menu displayed.
If a rectangle, circle, or ellipse is selected, the mouse cursor changes to [↕ : Resize in vertical direction] or [↔ : Resize in horizontal direction] when close to a frame line in the selected range, allowing the size to be changed in the vertical or horizontal directions by pressing the left mouse button and dragging.
If a polygon is selected, the mouse cursor changes to [: Add vertex] when close to a frame line between vertices, allowing a vertex to be added by pressing the right mouse button and selecting Add Vertex from the menu displayed.

Set Frame .... Uses the Edit tool to specify the width and color of the frame used to indicate the range of filled shapes. Set the frame width to zero if a frame is not required.

Enter ..... Outside the selected range, the mouse cursor changes to the shape selected [ ], and is ready for selection of the first point (2) in the next copy operation. After the first point of the next region is selected, the size and position of the previous region are entered, and the region selected is filled. Editing operations can also be accessed by right-clicking on the image and selecting Enter from the menu that appears.

(4) To terminate use of the **Fill** tool
Click the **Fill** button on the Toolbar again, or select **Fill** in the **Edit** menu. To quit during step (2), press the <**ESC**> key twice.
(Press the key once more than the number of points selected when using polygon)

NOTE

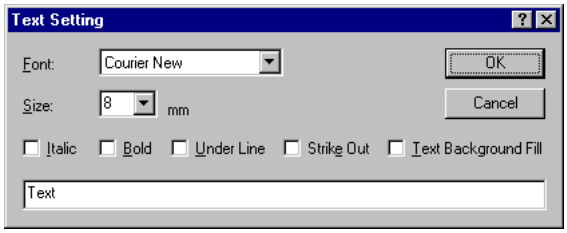
Transparent mode can be set using the Editing Tools.
For 24-bit color, Translucent mode can also be set using the Editing Tools.
The filled shape color can be specified as the foreground color in Color Tools, or by using Select Color in the Edit menu. Gradation can be set using the Edit tool if Translucent mode is specified. The filled shape (rectangle, polygon, circle, ellipse) can be selected using the Editing Tools.

Text

Adds text strings to the image

(1) Click the **Text** button on the Toolbar or select **Text** in the **Edit** menu.

(2) The **Text Setting** window will be displayed. Enter the text, set the font and size, and then click the **OK** button.



Italic ..... specifies italic text
Bold ..... specifies bold text
Under Line ..... specifies underlined text
Strike Out ..... specifies struck out text
Text Background Fill ..... specifies shading around the text

(3) The text entered will be displayed to the right of the cursor. Specify the start point of the text string by clicking with the left mouse button.

(4) Specify the angle of the text string by clicking with the left mouse button. Entering the second point while pressing the <**SHIFT**> key creates a horizontal, vertical, or 45° diagonal text string.

(5) Modify and enter the text string size and position.
Move ..... The mouse cursor changes to [**: Move**] when placed within the text box, allowing the position to be moved by pressing the left mouse button and dragging.

Resize ..... The mouse cursor changes to [↖↘**: Resize in horizontal/vertical direction**] when close to one of the four corner handles on the text box, allowing the size to be changed in the horizontal/vertical direction by pressing the left mouse button and dragging. Pressing the <**SHIFT**> or <**Ctrl**> keys while resizing maintains the image's original aspect ratio. The mouse cursor changes to [↕**: Resize in vertical direction**] or [↔**: Resize in horizontal direction**] when close to handles on the text box, allowing the size to be changed in either the horizontal or vertical direction by pressing the left mouse button and dragging.

Modify angle ... The mouse cursor changes to [**: Modify angle**] when close to the bottom right handle on the text box, allowing the angle to be changed by pressing the left mouse button and dragging. Pressing the <**SHIFT**> key while modifying the angle sets the angle horizontally, vertically, or at 45°.

Enter ..... Away from the text box, the mouse cursor changes to [A **: Text**], and clicking the left mouse button enters the text size and position.
Editing operations can also be accessed by right-clicking on the image and selecting Enter from the menu that appears.

(6) This completes the text entry process and displays the **Text Setting** window again.
(7) To terminate text entry, click the **Cancel** button in the **Text Setting** window.

TIP

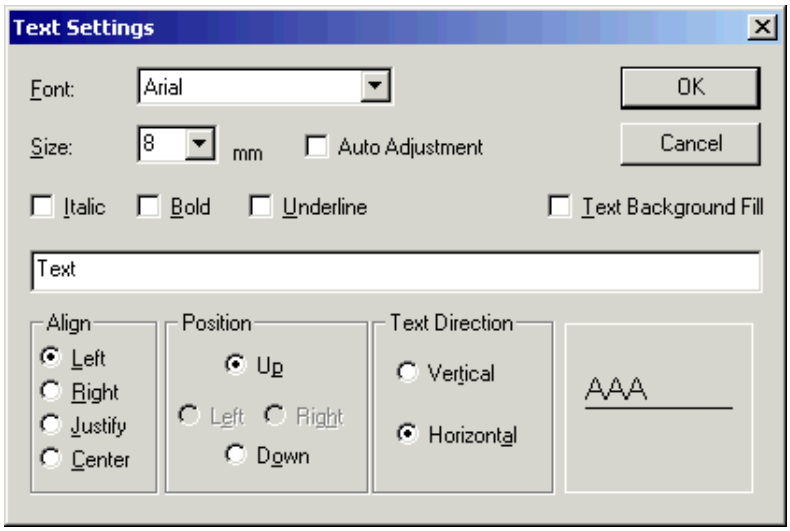
The text color can be specified as the foreground color in Color Tools, or by using select Color in the Edit menu.
The shading color can be specified by the background color button in Color Tools.

Position Text Using Line

Places text on a line in the image

(1) On the toolbar, click the **Position Text Using Line** button or select the **Edit** menu > **Position Text Using Line**.

(2) The mouse cursor changes to [+: Line input] and draws a solid line at the position for the text. Press the left mouse button and enter the desired coordinates. Double-click once the coordinates have been entered.



(3) The Text Setup window appears. Enter the text and set the font, size, and alignment before clicking the OK button.

Auto Adjustment ..... Automatically sets the text size. The text size is adjusted so that the text is arranged uniformly on the line specified.
Italic ..... Specifies italic text
Bold ..... Specifies bold text
Underline ..... Specifies underlined text
Text Background Fill ..... Specifies shading around the text
Align ..... Specifies the text alignment on the line. Left-justified, right-justified, even, and centered can be selected. These are disabled when Auto Adjustment of the text size is specified.
Position ..... Specifies the text position in relation to the line. Left or Right can be selected if vertical text is selected in Text Direction. Above or Below can be selected if horizontal text is selected in Text Direction.
Text Direction ..... Specifies the text direction

(4) Adjust and finalize the text position

Move ..... The mouse cursor changes to [: Add vertex] when close to the line on which the text is positioned. Pressing the left mouse button here changes the cursor to [: Move], allowing the text to be moved by dragging. The text can also be dragged by pressing the left mouse button when the cursor changes to [: Move] in the text range.

Resize ..... The mouse cursor changes to [: Resize] when close to a vertex handle on the line on which the text is positioned. The vertex can be moved here by pressing the left mouse button and dragging. Depressing the Shift key while dragging changes the line to horizontal, vertical, or 45°. Similarly, vertices can be deleted by pressing the right mouse button and selecting Delete Vertex from the menu displayed. The mouse cursor changes to [: Add vertex] when close to the line, allowing a vertex to be added by pressing the right mouse button and selecting Add Vertex from the menu displayed.

Change Text Attributes ..... Press the ESC key to return to the Set Text window. Change the text, font, size, and position before pressing the OK button.

Confirm Edit ..... The mouse cursor changes to [: Line input] when it is away from the text, allowing the text position to be confirmed by pressing the left mouse button. Editing can also be confirmed by pressing the right mouse button on the image and selecting Confirm Edit from the menu displayed.

(5) Once the text has been entered using the procedure described above, repeat step (2) to select the first point for entering the next solid line.

(6) To exit text input, press the **Cancel** button on the Text Settings window. The text color can be specified using the Color Tools foreground color or the Select Color command in the Edit menu. The shading color can be specified using the Color Tools background color.

Undo Edit Function

Cancels the function previously performed. Cancels the previous change when resizing or changing position. Returns the user to editing status if editing has been specified.

Click the **Undo** button on the Toolbar, or select **Undo** in the **Edit** menu.

Undo in the **Edit** menu is not available once the image has been saved or if tool operations have been performed.

TIP

The Undo button can be displayed by customizing the Toolbar.

Redo Undo Edit

Restores the previous editing operation canceled by Undo

If Redo is selected after an edit is corrected with the Undo button, the editing is specified.

Click the **Redo** button on the Toolbar or select **Redo** in the **Edit** menu.

TIP

The Redo button can be displayed by customizing the Toolbar.

4.6 Using Page Functions

With TIFF multi-page data, pages can be added, inserted, and deleted.

Previous Page

Displays the previous page of a multi-page image.

- Click the **Previous Page** button on the Page toolbar or select **Previous Page** on the **Page** menu.

Next Page

Displays the next page of a multi-page image.

- Click the **Next Page** button on the Page toolbar or select **Next Page** on the **Page** menu.

First Page

Displays the first page of a multi-page image.

- Select **First Page** on the **Page** menu or select **Jump**, check the **First Page** in the **Page Jump** window, and press the **OK** button.

Last Page

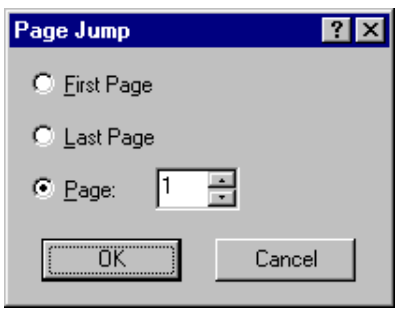
Displays the last page of a multi-page image.

- Select **Last Page** on the **Page** menu or select **Jump**, check the **Last Page** in the **Page Jump** window, and press the **OK** button.

Jump

Displays the specified page of a multi-page image.

- Select **Jump** on the **Page** menu.
- The **Page Jump** window will be displayed.



- Specify the page to jump to, and then press the **OK** button.

Cut

Cuts and stores the selected page of a multi-page image.

- Select the page to be cut, and click the **Cut Page** button on the Page toolbar or select **Cut** on the **Page** menu.

NOTE

Certain pages cannot be cut.

Copy

Copies and stores the selected page of a multi-page image.

- Select the page to be copied, and click the **Copy Page** button on the Page toolbar or select **Copy** on the **Page** menu.

Paste

Pastes stored pages that have been cut or copied into an image that can be saved as a multi-page image. This command is not available if no data is stored in the memory.
Pages can be pasted in one of the following three ways.

Before

Pastes the stored page in front of the current page.

- Click the **Before** button on the Page toolbar or select **Before** in **Paste** on the **Page** menu.

After

Pastes the stored page after the current page.

- Click the **After** button on the Page toolbar or select **After** in **Paste** on the **Page** menu.

New window

Creates a new image data window for the stored page.

- Click the **New Window** button on the Page toolbar or select **New Window** in **Paste** on the **Page** menu.

Delete

Deletes the selected page of a multi-page image.

- Click the **Delete Page** button on the Page toolbar or select **Delete** on the **Page** menu.

NOTE

Certain pages cannot be deleted. Note that deleted pages cannot be restored.

Save

Saves the current page of a multi-page image as a separate file. This command cannot be used when multiple pages are selected.

- Click the **Save** button on the Page toolbar or select **Save** on the **Page** menu.
- The **Save As** window will be displayed. Enter the required file name and click on the Save button.

Insert

Inserts pages in front of the current page in images that can be saved as multi-page images. Pages can be inserted in one of the two following ways.

From scanner

Inserts an image scanned from the scanner in front of the current page.

- Select **From scanner** in **Insert** on the **Page** menu.
- The **Scan** window will be displayed. Set the options before scanning the image.

From file

Inserts an image from a previously saved image file in front of the current page.

- Select **From file** in **Insert** on the **Page** menu.
- The **Open** window will be displayed. Select the file to be inserted.

Add

Adds pages after the current page in images that can be saved as multi-page images. Pages can be added in one of the two following ways.

From scanner

Adds an image scanned from the scanner after the current page.

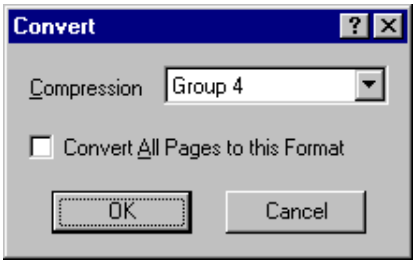
- Select **From scanner** in **Add** on the **Page** menu.
- The **Scan** window will be displayed. Set the options before scanning the image.

From file

Adds an image from a previously saved image file after the current page.
- Select **From file** in **Add** on the **Page** menu.
- The **Open** window will be displayed. Select the file to be added.

Convert

Converts the current compression format for multi-page images.
- Click the **Convert** button on the Page toolbar or select **Convert** in the **Page** menu.
- The following **Convert** window will be displayed.



- Select the compression format to be converted, and press the **OK** button.
- To convert all pages to the specified compression format, specify "**Convert All Pages to this Format**," and press the **OK** button.

NOTE

Pages with image data that is incompatible with the compression format will not be converted even when "Convert All Pages to this Format" is specified.

View

Full Page View

Displays the image in page by page format.
- Click the Full Page View button on the Page toolbar.

Reduced Size View

Displays the image as a reduced size image.
- Click the Reduced Size View button on the Page toolbar.

Page and Reduced Size View

Displays the current image together with a reduced size image.
- Click the Page and Reduced Size button on the Page toolbar.

4.7 Other Image Editing Functions

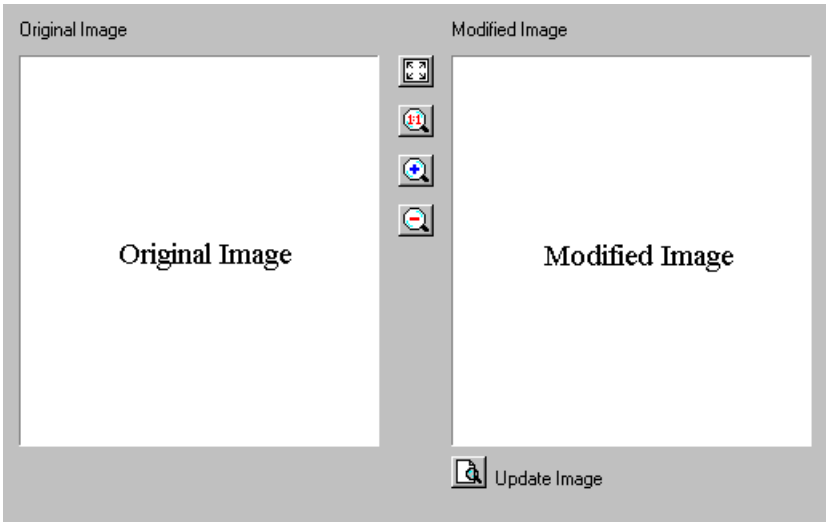
Various editing functions can be used from the Tools menu.

TIP

The Crop and Skew correction buttons can be displayed by customizing the Toolbar.

Preview display

Preview display for Enhance Edges and Color Controls on the Tools menu



Fit button

Enlarges or reduces the image to display the entire image within the current window size

1:1 button

Displays the image at one dot per pixel

Zoom In button

Displays the image at twice its current size

Zoom Out button

Displays the image at half its current size

Update Image button

Refreshes the image to the current settings after making the specified changes

NOTE

To display a range on the image, right-click and drag to create a square area. When the mouse button is released, the image in the range specified will be displayed in the current window.
To scroll the image, left-click and drag the Original Image box or Modified Image box with the mouse. The image scrolls in the direction in which the mouse is moved until the mouse button is released.

Crop

You can easily crop any sections protruding from the defined rectangular area.

A0-Landscape to B4-Portrait

If you select this menu item, the frame defining the document size you selected will be shown. The image in this frame will be clipped. Once you define the area to be clipped, left-click to delete the sections outside the frame.
On the toolbar, click the **A0-Landscape to B4-Landscape** or **A0-Portrait to B4-Portrait** button. Alternatively, select the **Tools** menu > **Crop** > **A0-Landscape to B4-Portrait**.

User 1 to 4

To use this function, you must register the size of the area to clip.
On the toolbar, click one of the **User 1 to 4** buttons, or select the **Tools** menu > **Crop** > one of the **User 1 to 4** sizes.

Set Region

To define the area to clip, take the following steps: Left-click in the desired position to define the start position. Next move the mouse until the desired area is obtained. Left-click to define the area to clip.
On the toolbar, click the **Set Region** button, or select the **Tools** menu > **Crop** > **Set Region**.

Move

If you need to move the on-screen image to any position without resizing it, you can use this function. The steps of the procedure are the same as for **A0-Landscape to B4-Portrait**.
On the toolbar, click the **Current Size** button, or select the **Tools** menu > **Crop** > **Move**.

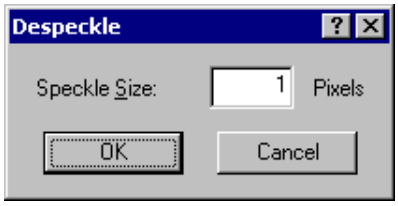
NOTE

If you want to scroll the area during setting, use the <←>, <→>, <↑>, or <↓> key on the keyboard. Pressing the <**ESC**> key cancels the settings.
The crop reference point can be changed within the **General** tab in **Options** in the **Tools** menu.
Similarly, the home point can be changed in the sequence “Center” → “Upper Left” → “Lower Left” → “Lower Right” → “Upper Right” → “Center” by pressing the Home key while selected.

Despeckling

This function is available only for bilevel data.
Any remaining speckles are removed from the background of the on-screen image.

(1) On the toolbar, click the **Despeckle** button, or select the **Tools** menu > **Despeckle**. The Despeckle window appears.



(2) Set the speckle size in the **Despeckle** window.
(3) Click the **OK** button.

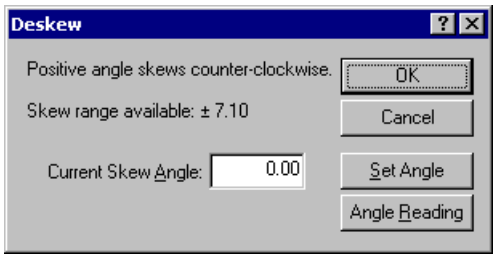
Deskew

When the scanner has scanned in a skewed document, the skewed on-screen image can be corrected.

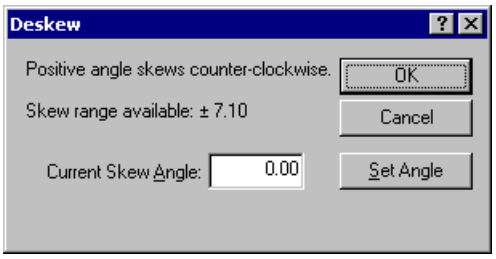
Deskew by setting the angle

(1) On the toolbar, click the **Deskew** button, or select the **Tools** menu > **Deskew**.

For bilevel data only



For all other data

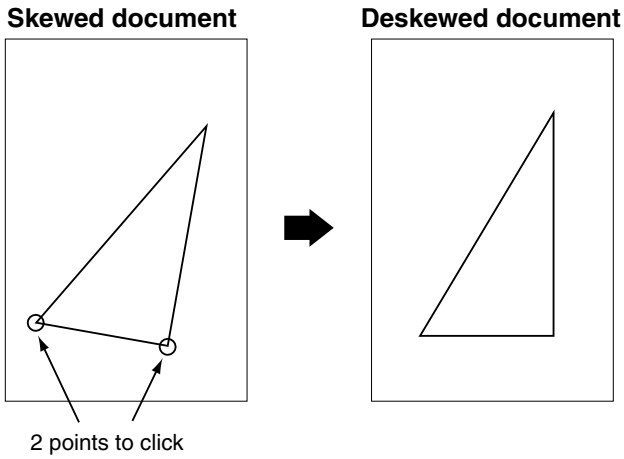


(2) Type the new angle in the **Deskew** window.
(3) Click the **OK** button.

Deskew by line

(1) On the toolbar, click the **Deskew** button, or select the **Tools** menu > **Deskew**.

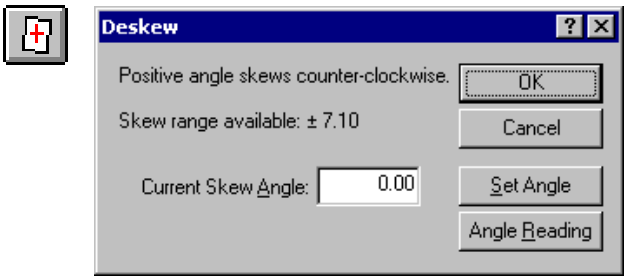
(2) Click the **Set Angle** button in the **Deskew** window.
(3) Click on the two points that define the skewed image. (They must be on the horizontal reference line for the document.)



(4) The **Deskew** window reappears. Click the **OK** button.

Deskew by reading the angle (for bilevel data only)

(1) On the toolbar, click the **Deskew** button, or select the **Tools** menu > **Deskew**.



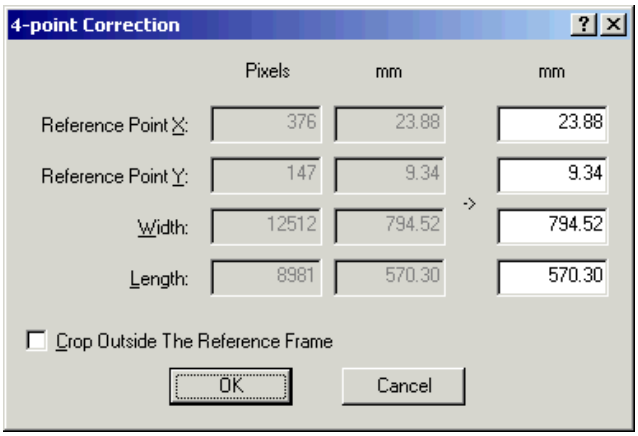
(2) Click **Angle Reading** in the **Deskew** window.
(3) The skew angle is automatically read from the active window. The skew is sensed in the top to bottom direction.
(4) The skew angle is displayed in the **Deskew** window.
(5) If the skew angle is within ±7.1 degrees, click the **OK** button. Otherwise the image cannot be deskewed.

4-point Correction

Four points on the image are corrected to form a rectangle.

(1) On the toolbar, click the **4-point Correction** button, or select the **Tools** menu > **4-point Correction**.

(2) Specify four points counterclockwise starting from the lower left.
(3) Once the fourth point is specified, a window will be displayed for specifying the rectangle's reference points, width, and length.



(4) Enter the reference points (X, Y), width and length, and then click the **OK** button.

Reference Point X ..... Sets new reference point X in the specified units
Reference Point Y ..... Sets new reference point Y in the specified units
Width ..... Sets a new width in the specified units
Length ..... Sets a new length in the specified units
Crop Outside The Reference Frame ..... Crops around the reference frame after correction; the image will be resized to the reference frame size.

TIP

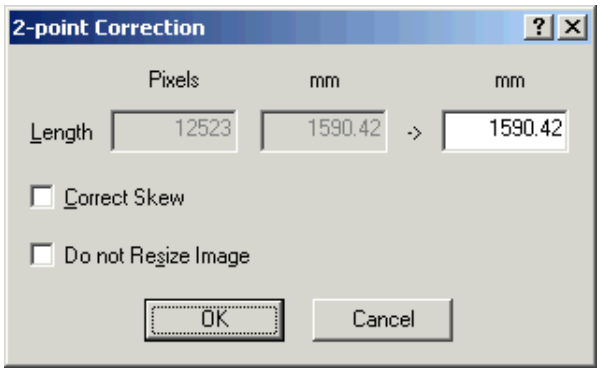
Areas with no data will be filled with the background color after correction. The background color can be specified using the Color Tools background color.

2-point Correction

Corrects image dimensions. The image is resized using the center point as a datum so that the distance between two points on the image match the distance specified.

(1) On the toolbar, click the **2-point Correction** button or select the **Tools** menu > **2-point Correction**.

(2) Specify two points on the image.



(3) Once the second point is specified, the length specification window appears.

(4) Set the length and click the OK button.

Length ..... Sets a new length in the specified unit.

Correct Skew ..... Corrects skew using the line connecting the two points specified as a datum. Skew is corrected vertically if the line is close to the vertical, and horizontally if it is close to the horizontal.

Do Not Resize Image ..... Corrects the distance without resizing the image. If the new length is longer than the current length, data beyond the image size will be deleted.

TIP

Areas with no data will be filled with the background color after correction. The background color can be specified using the Color Tools background color.

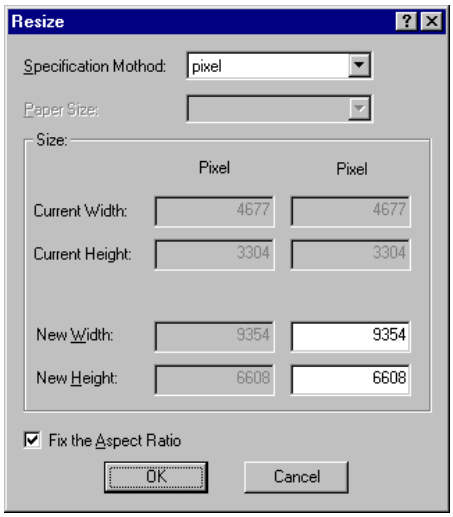
Resize

Resizes the on-screen image.

(1) Click the **Resize** button on the Toolbar or select **Resize** in the **Tools** menu to display the **Resize** window.

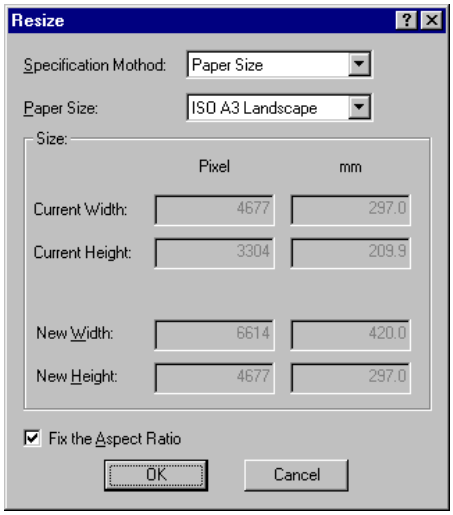
(2) Specify the new size in the **Resize** window.

When Pixel has been selected as the Specification Method



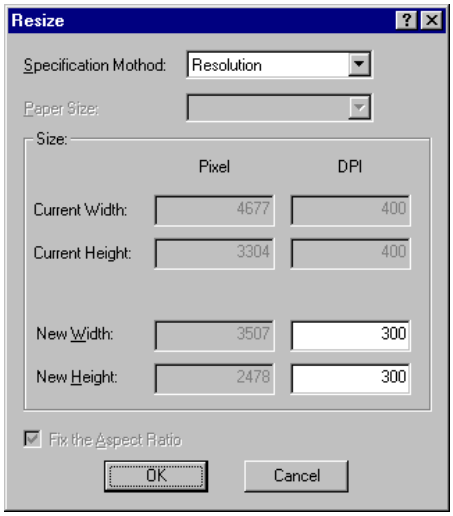
Specify the **New Width** and **New Height** for the new size as pixel units.

When Paper Size has been selected as the Specification Method



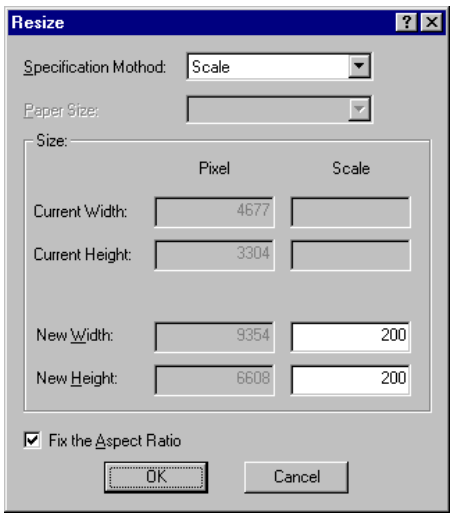
Select the new size from the options in **Paper Size**.
If you select **User Size**, you can specify the **New Width** and **New Height** in millimeter units.

When Resolution has been selected as the Specification Method



You can specify a new resolution for either the **New Width** or **New Height** (both settings will be the same).
In this case, **Fix the Aspect Ratio** will be enabled.

When Scale has been selected as the Specification Method



Specify a Scale value for **New Width** and **New Height**.

(3) Click the **OK** button.

Link

Links two images

On the toolbar, click the **Link** button, or select the **Tools** menu > **Link**.

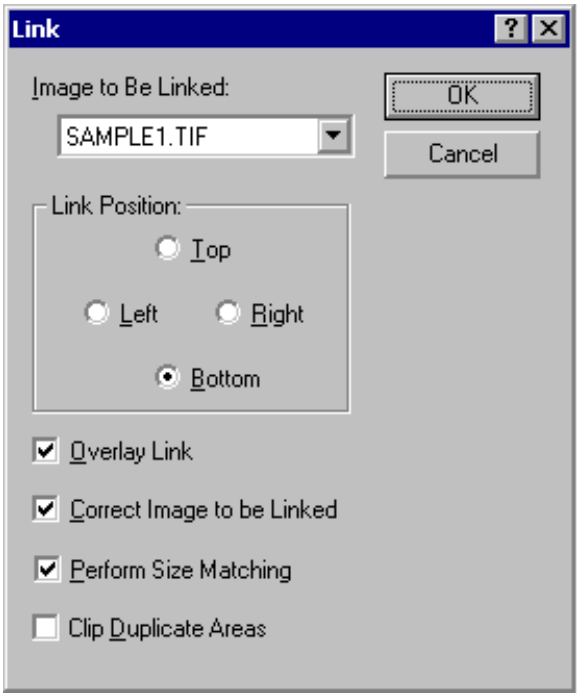


Image to be Linked ..... Specifies the image to be linked with the current image. Images with different numbers of bits/pixel cannot be specified.

Link Position ..... Specify the link position in relation to the current image.

Overlay Link ..... Links two images by overlaying one image on another. When using this function, pressing the OK button selects the base point specification mode. In base point specification mode, the current image and the image to be linked are displayed. Specify the base points for each. For details on how to specify the base points, see “Specifying base points”

When the images overlap, the image to be linked takes priority.

If “Overlay Link” is selected, “Correct Image to be Linked” can be selected.

Correct Image to be Linked..... This function can only be selected when “Overlay Link” is specified.

Use it to correct the size and skew of the image to be linked to match the current image.

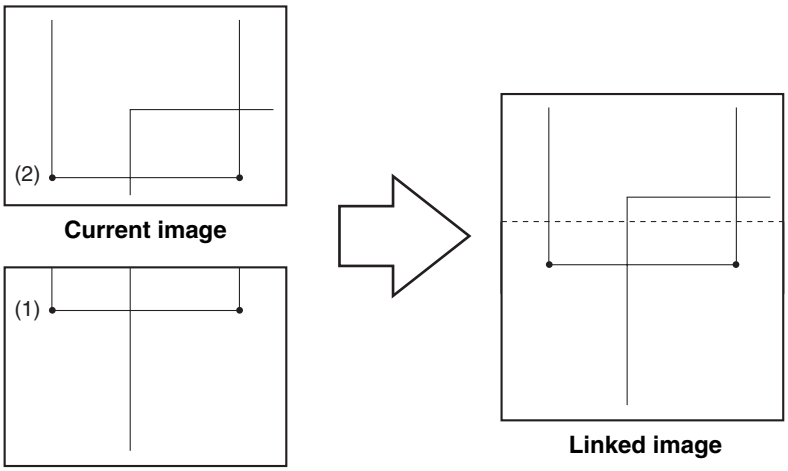
Perform Size Matching ..... Can only be selected when **Correct Image to be Linked** is specified.
Specifies whether to match the size to the current image and correct the size of the image to be linked. This should normally be selected.

Clip Duplicate Areas ..... Can only be selected when **Overlay Link** is specified. Clips the image to be linked along a straight line passing through the base point before linking. When this is specified, the line passing through the base point will form the alignment line for the image.

Specifying base points

When "Correct Image to be Linked" is not specified

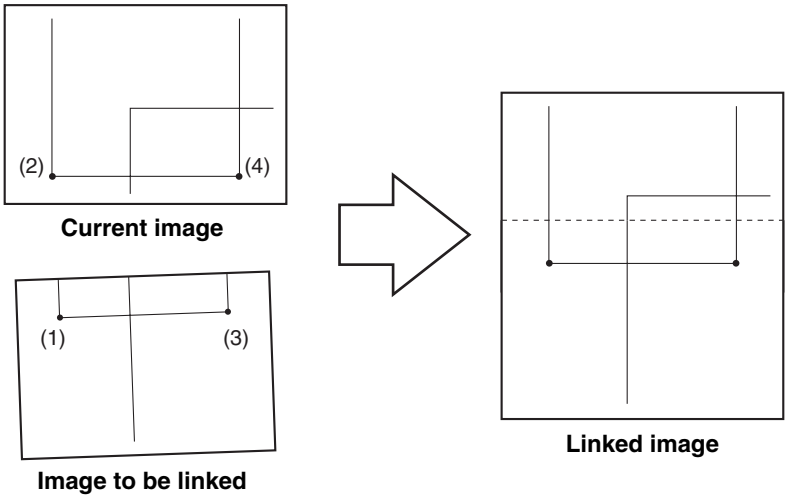
Specify one pair of base points. The images are linked so that the two points coincide. The base points are specified as shown below. In (1) to (2), a frame will be displayed for reference on the image for specifying the points.



(1) Specify the base point on the image to be linked.
(2) Specify the overlapping base point on the current image.
(3) Select "Yes" to confirm the selection.

When "Correct Image to be Linked" is specified

Specify two pairs of base points. The relative positions of the four specified points are used to correct the size and skew of the image to be linked before merging. The base points are specified as shown below. In (1) to (4), a frame will be displayed for reference on the image for specifying the points.



(1) Specify the first base point on the image to be linked.
(2) Specify the overlapping base point on the current image.
(3) Specify the second base point on the image to be linked.
(4) Specify the second overlapping base point while checking that the outline of the image to be linked is properly displayed.
(5) Select "Yes" to confirm the selection.

* In (4), the range in which the point can be specified is limited as follows.
- The difference in angle between the line connecting the points specified in (1) and (3) and the line connecting the points specified in (2) and (4) must be within ±7.1°.
- In addition, the height and width of the image to be linked must be at least 32 pixels after correction.
- The magnification of the image to be linked must not exceed 255 times proportional to the length.

  Finally, the outline of the image to be linked after correction will be displayed for reference when the mouse cursor is within the range for specifying points.

* If the resizing magnification value will be more than 2 or less than 1/2, a cautionary note will be displayed along with the confirmation message in (5). If there are no problems, selecting "Yes" links the image.

TIP

You can link already opened images. The colors of the linked image may change if a grayscale and 8-bit color image are linked, or if two 8-bit color images are linked.
If you want to specify "Overlay Link" you have to delete the non-required parts of the image to be linked using the crop function.

Select Area

Selects the area used in Smoothing, Enhance Edges, Adjust, Delete Color, Modify Color, and Extract Color. If an area is selected using this command, only data inside the area will be modified. When an area is selected using this command, other commands cannot be selected from the Tools menu.

To select the area, perform the following:

(1) Either click the **Select Area** button from the toolbar, or select the **Select Area** command on the **Tools** menu.

(2) Next, use the Select Area tools described below to select a region.
Pressing the <**ESC**> key deletes the previously selected point.
   (a) For the Rectangle tool, left-click on two points to select a rectangular area with the points forming diagonally opposite corners.
   (b) For the Polygon tool, left-click on points corresponding to polygon vertices. (The polygon is always enclosed.) Double-click on the final vertex to end the area-selection process.
   (c) For the Circle or Ellipse tool, left-click on the center of the region to be selected, and move the mouse to specify the desired circle or ellipse size. Click once again to end the area-selection process.

(3) Modify position and size.

Move ..... The mouse cursor changes to [**: Move**] when placed in the center of the selected area. Left-clicking and dragging allows the position of the selected area to be moved.

Change size ..... The mouse cursor changes to [: Resize in horizontal/vertical direction] when close to a corner handle in the selected range, allowing the size to be changed in the horizontal or vertical directions by pressing the left mouse button and dragging. If a polygon is selected, vertices can be deleted by pressing the right mouse button and selecting the vertices to be deleted from the menu displayed.

If a rectangle, circle, or ellipse is selected, the mouse cursor changes to [: Resize in vertical direction] or [: Resize in horizontal direction] when close to a frame line in the selected range, allowing the size to be changed in the vertical or horizontal directions by pressing the left mouse button and dragging.

If a polygon is selected, the mouse cursor changes to [: Add vertex] when close to a frame line between vertices, allowing a vertex to be added by pressing the right mouse button and selecting Add Vertex from the menu displayed.

(4) Use tool commands.
Only Smoothing, Enhance Edges, Adjust, Delete Color, Modify Color, and Extract Color can be used.

(5) To exit area selection.
To quit the Select Area process, click the **Select Area** button on the toolbar once again, or select the **Select Area** command from the **Tools** menu. To quit in step 2 described above, press the <**ESC**> key twice. (Press the key once more than the number of points selected when using polygon)

TIP

This command cannot be used for bilevel data.
The Select Area tool shape (rectangle, polygon, circle, ellipse) can be selected in Editing Tools.
The **Adjust** command cannot be selected if an area is selected for 8-bit color data. When an area is selected for 8-bit color data, the Modified Color in Modify Color and Extract Color can only be changed to the colors of the image palette. Colors in the Modified Color list may not exist in the current palette if settings are loaded for an image with a different palette. If this occurs, the Modified Color will be replaced by the closest color in the palette.

Smoothing

Smoothes the image

On the toolbar, click the **Smoothing** button, or select the **Tools** menu > **Smoothing**.

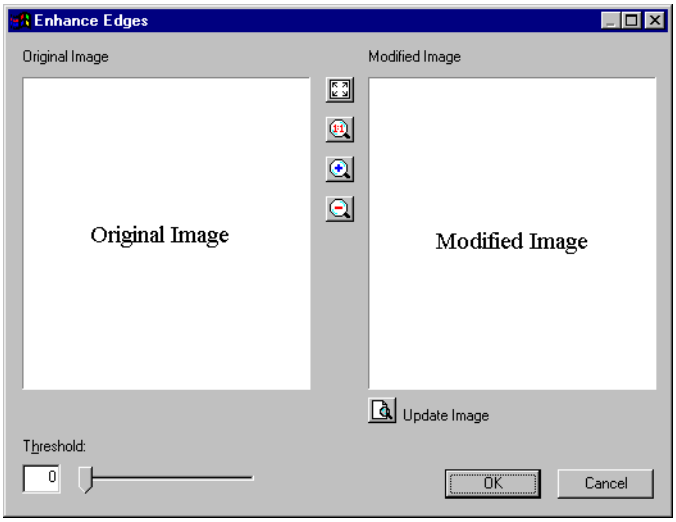
TIP

This command can only be used for grayscale and 24-bit color data.

Enhance Edges

Enhances the image edges

On the toolbar, click the **Enhance Edges** button, or select the **Tools** menu > **Enhance Edges**.



Threshold ..... Edge enhancement is applied to pixels whose difference with surrounding pixels exceeds the threshold value. Set a high threshold to avoid background noise. If the threshold is set to 0, edge enhancement is applied to all pixels.

TIP

- For details regarding the Original Image and Modified Image boxes, see Preview display on page 4-45.
- This command can only be used for grayscale and 24-bit color data.

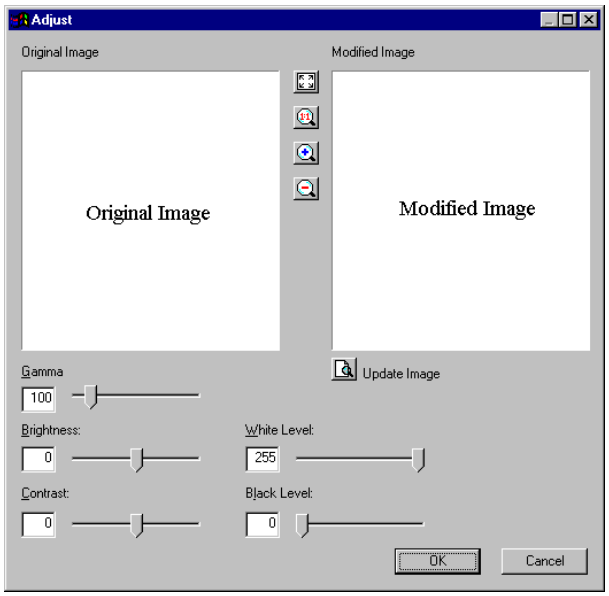
Color Controls

Adjust

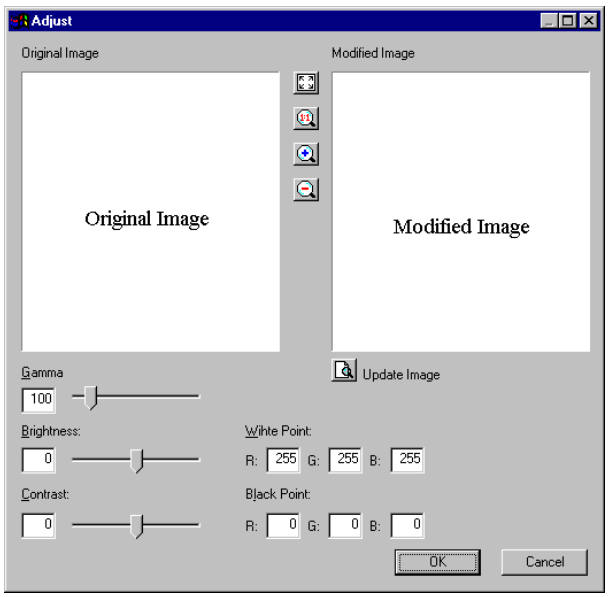
Varies the image brightness and contrast

On the toolbar, click the **Adjust** button, or select the **Tools** menu > **Color Controls** > **Adjust**.

Grayscale



8-bit/24-bit color



Gamma ..... Adjusts the gamma setting. Increasing the setting increases the brightness of the mid-range areas of the image.

Brightness ..... Specifies the brightness level. Drag the slider to the right to increase the brightness, and to the left to reduce the brightness.

Contrast ..... Specifies the contrast level. Drag the slider to the right to increase the contrast and image sharpness, and to the left to reduce the image contrast and clarity.

White Level (grayscale only) ..... Converts pixels that are whiter than the specified value to white. This function is effective in creating white backgrounds. Decreasing the setting increases the effect, but image data will be lost for areas whiter than the specified value.

Black Level (grayscale only) ..... Converts pixels that are blacker than the specified value to black. This function is effective in creating black foregrounds. Increasing the setting increases the effect, but image data will be lost for areas blacker than the specified value.

White Point (8-bit/24-bit color) ..... Converts the parts of the image that are closer to white than the specified value to white. This function is effective for converting backgrounds into white. Decreasing the setting increases the effect.

Black Point (8-bit/24-bit color) ..... Converts the parts of the image that are closer to black than the specified value to black. This function is effective for converting data on the image into black. Increasing the setting increases the effect.

NOTE

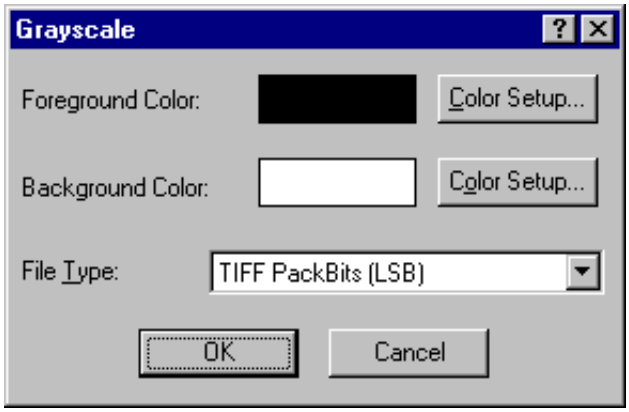
- For details regarding the Original Image and Modified Image boxes, see Preview display on page 4-45.
- This command cannot be used for bilevel data.
- If the data is color, values can be changed to their red, green, and blue components; make selection using the buttons over the gamma settings for the component to be changed. If RGB is selected, the red, green, and blue components are all changed simultaneously.

Grayscale

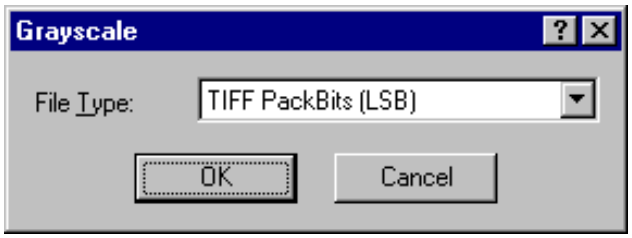
Changes bilevel, 8-bit color, and 24-bit color images to grayscale images

On the toolbar, click the **Grayscale** button, or select the **Tools** menu > **Color Controls** > **Grayscale**.

Bilevel



8-bit/24-bit color



Foreground Color ..... Specifies the foreground color for conversion to grayscale
Background Color ..... Specifies the background color for conversion to grayscale
File Type ..... Specifies the file type for conversion to grayscale

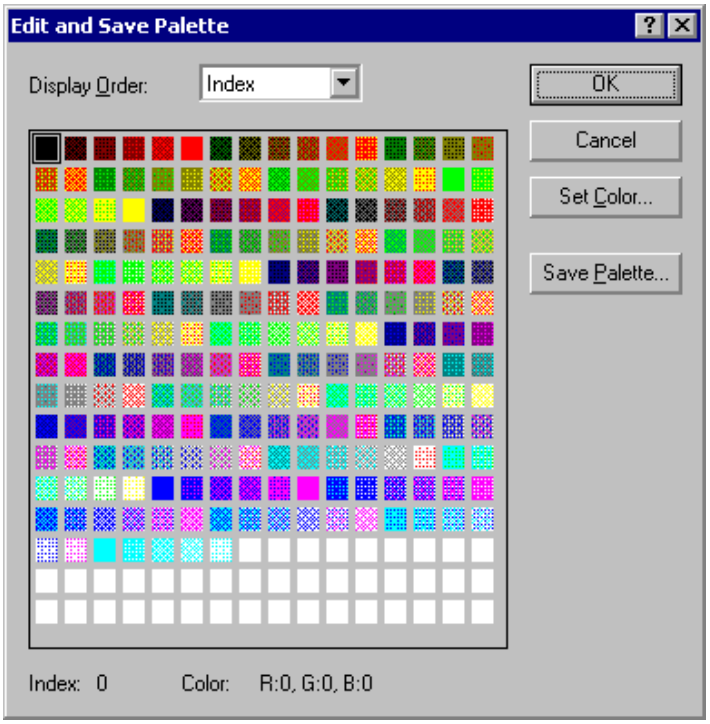
NOTE

This command cannot be used for grayscale data.

Edit and Save Palette

Edits and saves the image palette

On the toolbar, click the **Edit and Save Palette** button, or select the **Tools** menu > **Color Controls** > **Edit and Save Palette**.



Display Order ..... Changes the palette display order.
Save Palette button..... Saves the current palette as a file. The saved file can be used when scanning from a scanner, or for **Palette** in **Tools** > **Color Controls** > **Reduce Colors** > **8-bit Color** > **Palette**.

To replace a color, select the color to be changed. Pressing the Shift or Ctrl keys while clicking enables selection of multiple colors. Click the **Set Color** button or double-click on the color to be changed. The **Color** window will be displayed. Set the color in the **Color** window, and press the **OK** button to return to the **Edit and Save Palette** window.

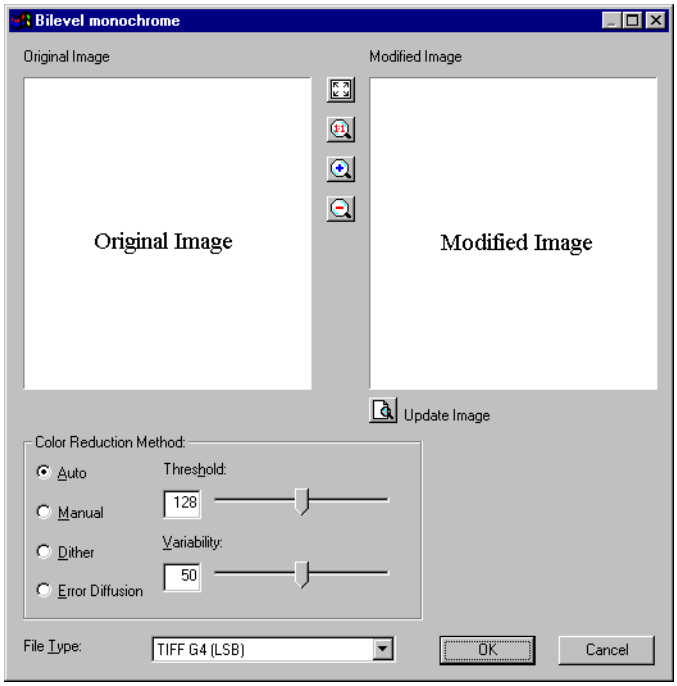
NOTE

This command can only be used with 8-bit color data. When the palette is edited, the colors displayed in the image are also changed accordingly.

Reduce Colors – Bilevel

Changes grayscale or color images to bilevel images

On the toolbar, click the **Reduce to Bilevel** button, or select the **Tools** menu > **Color Controls** > **Reduce Colors** > **Bilevel**.



Auto ..... Calculates the most suitable threshold value for each area while converting the data to bilevel format.

Manual ..... Converts the data to bilevel format at one threshold value for the entire area.

Dither ..... Sets conversion to bilevel using a dither pattern

Error Diffusion ..... Sets conversion to bilevel using an error diffusion method

Threshold ..... Sets the threshold value for manual bilevel conversion

Variability ..... Specifies whether to convert to black or white for automatic bilevel conversion. To make the image blacker, reduce the value, and to make the image whiter, raise the value.

File Type ..... Specifies the file type for bilevel conversion

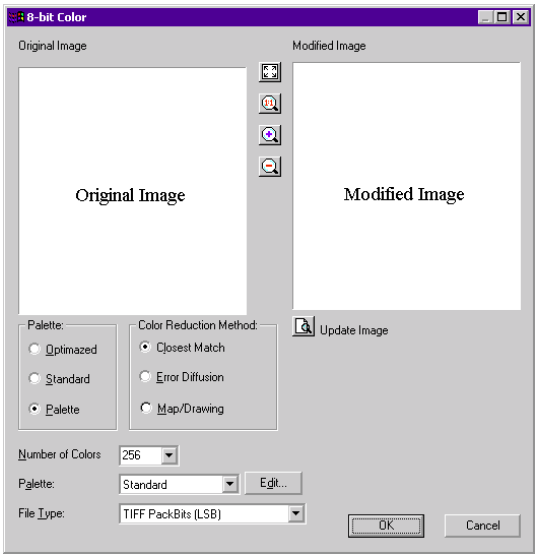
NOTE

- For details regarding the Original Image and Modified Image boxes, see Preview display on page 4-45.
- This command can only be used for grayscale and color data.

Reduce Colors – 8-bit Color

Changes 24-bit color images to 8-bit color images

On the toolbar, click the **Reduce to 8-bit Color** button, or select the **Tools** menu > **Color Controls** > **Reduce Colors** > **8-bit Color**.



Palette

Select the palette used for color reduction.

Optimized ..... Creates the optimum palette from the original image
Standard ..... Uses a standard balanced palette
Palette ..... Uses the specified palette.

Color Reduction Method

Select the method for color reduction. Some items may not be available depending on the palette used.

Closest Match ..... Replaces the original pixel colors with the colors on the palette with the closest RGB values.
Error Diffusion ..... Uses an error diffusion method to replace the original pixel colors with a palette color for a more natural appearance.
Map/Drawing ..... (for Optimized only) Reduces colors using a special method for maps and other drawings that use a small number of colors. A special processing method ensures that the required colors are retained, especially when fewer than eight colors are specified.
Number of Colors ..... (for Optimized only) Specifies the number of colors used between 3 and 256 when reducing colors.
Palette (for Palette only) ..... Specifies the palette used in color reduction.
File Type ..... Specifies the file type for 8-bit color conversion.

NOTE

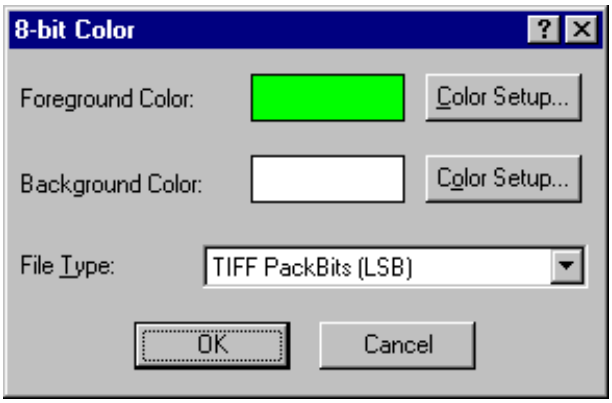
This command can only be used for 24-bit color data.
For details regarding the Original Image and Modified Image boxes, see Preview display on page 4-45.

Increase Colors – 8-bit Color

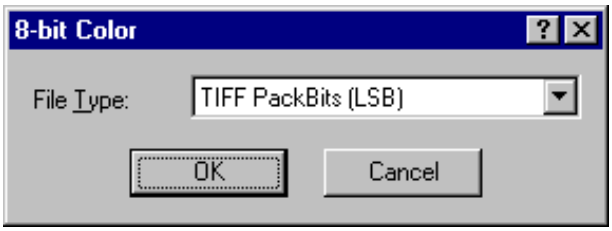
Converts bilevel or grayscale images to 8-bit color images

On the toolbar, click the **Increase to 8-bit Color** button, or select the **Tools** menu > **Color Controls** > **Increase Colors** > **8-bit Color**.

Bilevel



Grayscale



Foreground Color ..... Specifies the foreground color for conversion to 8-bit color
Background Color ..... Specifies the background color for conversion to 8-bit color
File Type ..... Specifies the file type for conversion to 8-bit color

TIP

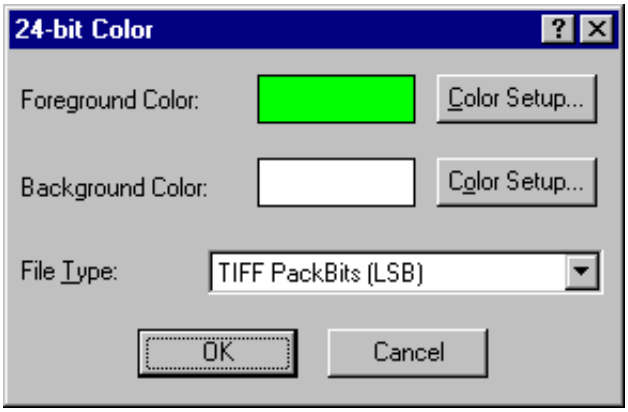
This command can only be used for bilevel and grayscale data. The display itself will not change when a bilevel or grayscale data image is converted to 8-bit color, although functions that can be edited will change. If a grayscale image is converted to 8-bit color and saved without changing the palette, the image will be treated as a grayscale image the next time it is opened.

Increase Colors – 24-bit Color

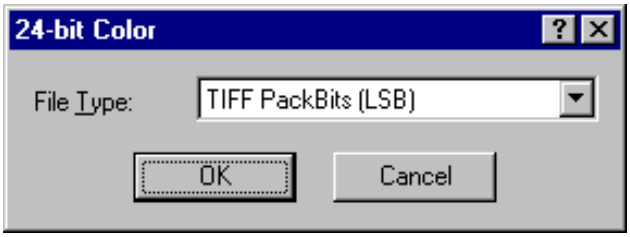
Converts bilevel, grayscale, or 8-bit color images to 24-bit color images

On the toolbar, click the **Increase to 24-bit Color** button, or select the **Tools** menu > **Color Controls** > **Increase Colors** > **24-bit Color**.

Bilevel



Grayscale and 8-bit color



Foreground Color ..... Specifies the foreground color for conversion to 24-bit color
Background Color ..... Specifies the background color for conversion to 24-bit color
File Type ..... Specifies the file type for conversion to 24-bit color

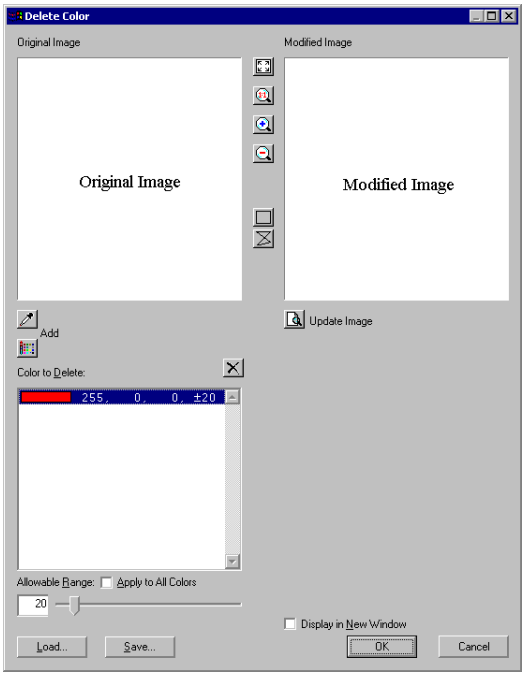
TIP

This command cannot be used for 24-bit color data. The display itself will not change when an image is converted to 24-bit color, although functions that can be edited will change.

Delete Color

Deletes a specified color on the image.

Either click the **Delete Color** button on the toolbar or select **Delete Color** from the **Tools** menu to open the Delete Color window.



The procedure is as follows.

(1) Click the **Add** button and click the color to be deleted in the **Original Image** box. The color at the current mouse cursor position is displayed to the right of the **Add** button. To increase the region of a specified color, click the mouse button at the specified position and drag it. All the colors through which the mouse passes are added. For 8-bit color images, colors to be deleted can also be added from the palette by clicking the **Select from Palette** button .
To add colors enclosed in a specified region, click the **Rectangle** button or the **Polygon** button , and then left-click with the mouse in the **Original Image** box to create a region enclosing the colors to be deleted.
When using the **Rectangle** button, click on two points to enclose a region. When using the **Polygon** button, double-click after selecting at least three points to close the selected region. The colors enclosed in this region will be added to the list. Up to 16 colors can be added to the list at once.

(2) To increase the number of deleted colors, increase the **Allowable Range** or click the **Add** button and click on the colors to be deleted in the **Original Image** box. To increase the region of a specified color, click the mouse button at the specified position and drag it. All the colors through which the mouse passes are added. To add colors enclosed in a specified region, click the **Rectangle** button or the **Polygon** button, and then left-click with the mouse in the **Original Image** box to create a region enclosing the colors to be deleted. When using the Rectangle button, click on two points to enclose a region. When using the Polygon button, double-click after selecting at least three points to close the selected region. The colors enclosed in this region will be added to the list. Up to 16 colors can be added to the list at once.

(3) To modify a selected color, double-click the color to be modified to display the **Color** window, and modify the color.

(4) To delete a color from the list, select the color from the list and click the **Delete** button .

(5) Click the **Update Image** button . The **Modified Image** box is updated.

(6) Repeat steps (1) to (5) until the desired image is obtained.

(7) Click the **OK** button to close the window. If **Display in New Window** is selected, a new window is displayed here.

Allowable Range ..... Specifies the allowable range of the colors to be deleted.
If set to 0, only the colors specified in the **Color to Delete** list will be changed to the background color.
If set to 20, colors with RGB values within a range of ±20 from the colors specified in the **Color to Delete** list will be changed to the background color.
If set to 255, all the colors will be changed to the background color.

Apply to All Colors ..... Specifying this option applies Allowable Range changes to all the colors displayed in the **Color to Delete** list.

Display in New Window .... Specifying this option displays the image in a new window without changing the current image.

Load button ..... Loads settings from a previously saved file. The **Load** window appears, enabling selection of the file to be loaded.

Save button ..... Saves the current settings to a file. The **Save** window appears, enabling assignment of a file name.
Saving the file in the Color folder within the folder in which Scanning Master Pro Color is installed permits selection of the file when loading from the scanner.

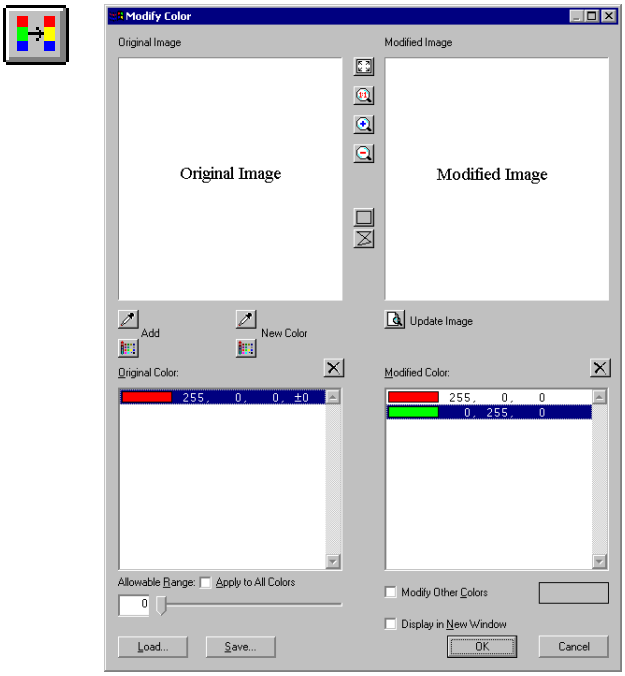
TIP

- For details regarding the Original Image and Modified Image boxes, see Preview display on page 4-45.
- This command can be used with color data.

Modify Color

Modifies a specified color on the image.

Either click the **Modify Color** button on the toolbar or select **Modify Color** from the **Tools** menu to open the Modify Color window.



The procedure is as follows.

(1) Click the **New Color** button and click the color to be modified in the **Original Image** box. The color at the current mouse cursor position is displayed to the right of the **Add** button. To increase the region of a specified color, click the mouse button at the specified position and drag it. All the colors through which the mouse passes are added. For 8-bit color images, colors to be modified can also be added from the palette by clicking the **Select from Palette** button .
To add colors enclosed in a specified region, click the **Rectangle** button or **Polygon** button , and then left-click with the mouse in the **Original Image** box to create a region enclosing the colors to be modified.
When using the **Rectangle** button, click on two points to enclose a region. When using the **Polygon** button, double-click after selecting at least three points to close the selected region. The colors enclosed in this region will be added to the list. Up to 16 colors can be added to the list at once.

(2) To add colors to modify, increase the **Allowable Range** or click the **Add** button and click on the colors to be added in the **Original Image** box. To increase the region of a specified color, click the mouse button at the specified position and drag it. All the colors through which the mouse passes are added. To add colors enclosed in a specified region, click the **Rectangle** button or the **Polygon** button, and then left-click with the mouse in the **Original Image** box to create a region enclosing the colors to be modified. When using the Rectangle button, click on two points to enclose a region. When using the Polygon button, double-click after selecting at least three points to close the selected region. The colors enclosed in this region will be added to the list. Up to 16 colors can be added to the list at once.

(3) To modify a selected color, double-click the color to be modified to display the **Color** window, and modify the color.
When an area is selected for 8-bit color data, the **Modified Color** can only be changed to colors in the current image palette. Double-clicking on the color to be modified displays the Select Color window, allowing the color to be selected from the palette.

(4) To delete a color from the list, select the color from the list and click the **Delete** button .

(5) Click the Update Image button . The Modified Image box is updated.

(6) Repeat steps (1) to (5) until the desired image is obtained.

(7) Click the **OK** button to close the window. If **Display in New Window** is selected, a new window is displayed here.

Allowable Range ..... Specifies the allowable range of the colors to be modified.
If set to 0, only the colors specified in the **Original Color** list will be changed to the colors set in the **Modified Color** list.
If set to 20, colors with RGB values within a range of ±20 from the colors specified in the **Original Color** list will be changed to the colors set in the **Modified Color** list.
If set to 255, all the colors will be changed to the colors set in the **Modified Color** list.

Apply to All Colors ..... Specifying this option applies Allowable Range changes to all the colors displayed in the **Original Color** list.

Modify Other Colors ..... Specifying this option changes all unselected colors to the same color. Clicking on an area with this color displays the **Color** window, enabling the new color to be set.

Display in New Window .... Specifying this option displays the image in a new window without changing the current image.

Load button ..... Loads settings from a previously saved file. The **Load** window appears, enabling selection of the file to be loaded.

Save button ..... Saves the current settings to a file. The **Save** window appears, enabling assignment of a file name.
Saving the file in the Color folder within the folder in which Scanning Master Pro Color is installed permits selection of the file when loading from the scanner.

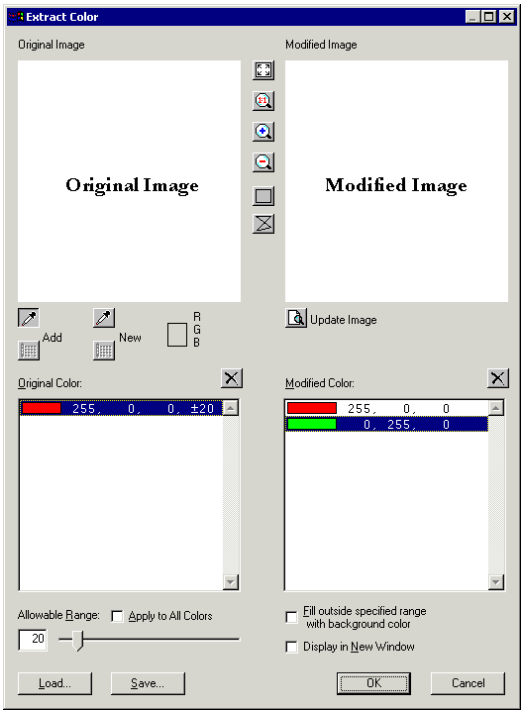
TIP

- For details regarding the Original Image and Modified Image boxes, see Preview display on page 4-45.
- This command can be used with color data.
- When an area is selected for 8-bit color data, colors in the Modified Color list may not exist in the current palette if settings are loaded for an image with a different palette. If this occurs, the Modified Color will be replaced by the closest color in the palette.

Extract Color

Extracts a specified color from the image.

Either click the **Extract Color** button on the toolbar or select **Extract Color** from the **Tools** menu to open the Extract Color window.



The procedure is as follows.

(1) Click the **Add** button and click the color to be extracted in the **Original Image** box. The color at the current mouse cursor position is displayed to the right of the **Add** button. To increase the region of a specified color, click the mouse button at the specified position and drag it. All the colors through which the mouse passes are added. For 8-bit color images, new colors can also be added from the palette by clicking the **Select from Palette** button .
To add colors enclosed in a specified region, click the **Rectangle** button or **Polygon** button , and then left-click with the mouse in the **Original Image** box to create a region enclosing the colors to be extracted.

When using the **Rectangle** button, click on two points to enclose a region. When using the **Polygon** button, double-click after selecting at least three points to close the selected region. The colors enclosed in this region will be added to the list. Up to 16 colors can be added to the list at once.

(2) To add colors to extract, increase the **Allowable Range** or click the **Add** button and click the colors to be added in the **Original Image** box. To increase the region of a specified color, click the mouse button at the specified position and drag it. All the colors through which the mouse passes are added. To add colors enclosed in a specified region, click the **Rectangle** button or the **Polygon** button , and then left-click with the mouse in the **Original Image** box to create a region enclosing the colors to be extracted. When using the Rectangle button, click on two points to enclose a region. When using the Polygon button, double-click after selecting at least three points to close the selected region. The colors enclosed in this region will be added to the list. Up to 16 colors can be added to the list at once.

(3) To modify a selected color, double-click on the color to be modified to display the **Color** window, and modify the color.
When an area is selected for 8-bit color data, the **Modified Color** can only be changed to colors in the current image palette. Double-clicking on the color to be modified displays the Select Color window, allowing the color to be selected from the palette.

(4) To delete a color from the list, select the color from the list and click the **Delete** button .

(5) Click the **Update Image** button . The **Modified Image** box is updated.

(6) Repeat steps (1) to (5) until the desired image is obtained.

(7) Click the **OK** button to close the window. If **Display in New Window** is selected, a new window is displayed here.

Allowable Range ..... Specifies the allowable range of the colors to be extracted.
If set to 0, only the colors specified in the **Original Color** list will be changed to the colors set in the **Modified Color** list.
If set to 20, colors with RGB values within a range of ±20 from the colors specified in the **Original Color** list will be changed to the colors set in the **Modified Color** list.
If set to 255, all the colors will be changed to the colors set in the **Modified Color** list.

Apply to All Colors ..... Specifying this option applies Allowable Range changes to all the colors displayed in the **Original Color** list.

Fill outside specified range with background color ..... Specifying this option fills the entire area outside the specified region using the background color. This option is only available when an area has been selected.

Display in New Window .... Specifying this option displays the image in a new window without changing the current image.

Load button ..... Loads settings from a previously saved file. The **Load** window appears, enabling selection of the file to be loaded.

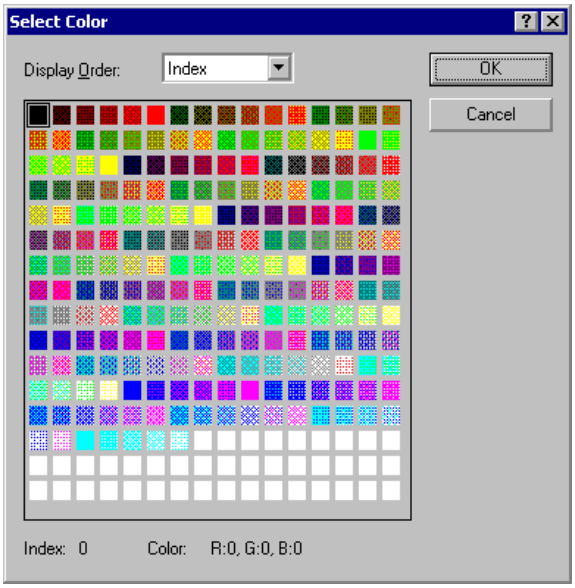
Save button ..... Saves the current settings to a file. The **Save** window appears, enabling assignment of a file name.
Saving the file in the Color folder within the folder in which Scanning Master Pro Color is installed allows it to be specified when loading from the scanner.

TIP

- For details regarding the Original Image and Modified Image boxes, see the Preview Display on page 4-39.
- This command can be used for color data.
- Colors other than those extracted will become the background color.
- When an area is selected for 8-bit color data, colors in the Modified Color list may not exist in the current palette if settings are loaded for an image with a different palette. If this occurs, the Modified Color will be replaced by the closest color in the palette.

Select Color

Clicking the **Select from Palette** button in Delete Color/Modify Color/Extract Color displays the **Select Color** window.



The procedure is as follows.

(1) Click on the color to be selected. Multiple colors can be selected by pressing the <Shift> or <Ctrl> keys while clicking.
(2) Click the **OK** button to close the window.
Display Order ..... Changes the color display order. Colors can be displayed in order of index, brightness, or hue.

Inverting the Image

This function inverts the colors of the on-screen image.

Perform one of the following:

- On the toolbar, click the **Invert** button.

- Select the **Tools** menu > **Invert**.
- Press the <**F8**> key on the keyboard.

Mirroring the Image

This function mirrors the image on the vertical axis.

Perform one of the following:

- On the toolbar, click the **Mirror** button.

- Select the **Tools** menu > **Mirror**.

Rotating the Image

This function rotates the on-screen image 90 degrees clockwise or counterclockwise, or 180 degrees.

Perform one of the following:

Rotating the image 90 degrees counterclockwise

- On the toolbar, click the **Rotate 90° CCW** button.

- Select the **Tools** menu > **Rotate 90° CCW**.
- Press the <**F9**> key on the keyboard.

Rotating the image 90 degrees clockwise

- On the toolbar, click the **Rotate 90° CW** button.

- Select the **Tools** menu > **Rotate 90° CW**.
- Press the <**F10**> key on the keyboard.

Rotating the image 180 degrees

- On the toolbar, click the **Rotate 180°** button.

- Select the **Tools** menu > **Rotate 180°**.

Undo

Resets the previous raster operation, including Despeckle, Deskew, Crop, and Resize. Click the **Undo** button on the Toolbar or select **Undo** in the **Tools** menu.

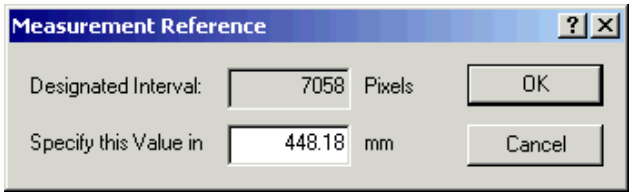
4.8 Image Measurement

This function measures a point-to-point distance based on the current magnification and resolution.
If the reference unit length is known, relative measurement is enabled based on this length.

Setting the Unit Length

Set those new intervals between two points that are used for the reference. Use the following procedure:

(1) Select the **View** menu > **Relative Measure** > **Measure Unit Setting**.
(2) Click the two new points you want to use for the reference.
(3) The Measurement Reference window appears.



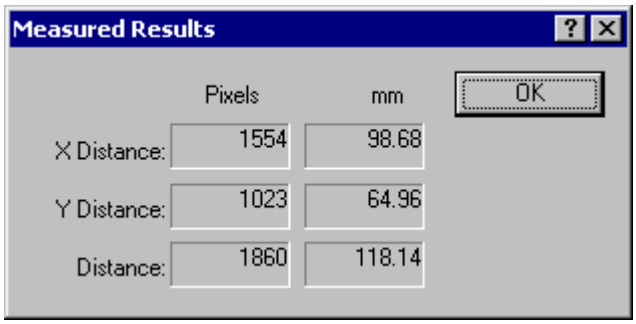
(4) In the **Measurement Reference** window, set the length of the designated interval.
(5) If you want to cancel the settings, press the <**ESC**> key.

CHECKPOINT

The scale you set in the Measurement Reference window will take effect only for calculation by the Measure command. It does not influence any other commands.
If you have changed the data unit in the Tools menu > Options > Unit Setup perform the Measure Unit Setting once again.

Setting the Distance Between Specified Points

(1) Select the **View** menu > **Relative Measure** > **Measure**.
(2) Set the two points for which you want to perform relative measurement.
(3) Once you set two points, the **relative distance** is calculated based on the interval you set in **Measure Unit Setting** and the **Measured Results** window appears.



(4) If you want to cancel the settings, press the <**ESC**> key.

5. DESCRIPTIONS OF FUNCTIONS

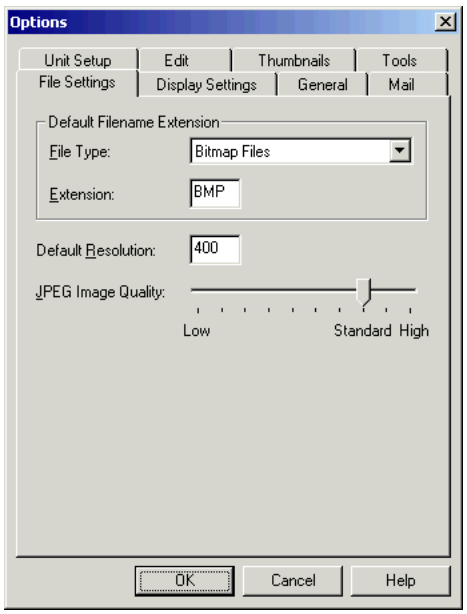
This chapter details the View window functions and the Scanning Master Pro Color menus.

5.1 Options

Sets the image options

File Settings tab

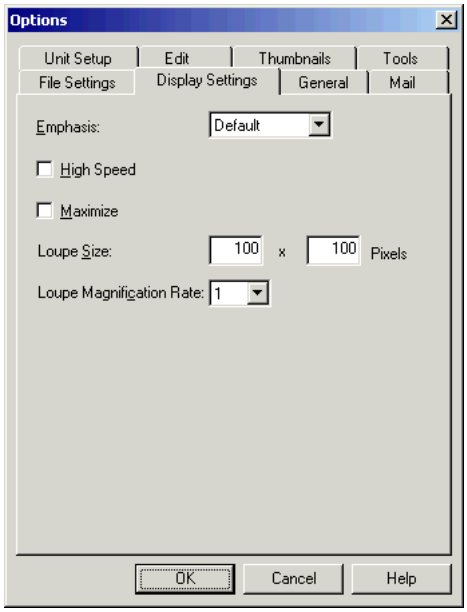
Select **Options** in the **Tools** menu, and select the **File Settings** tab.



File Type ..... Selects the file format to change the default extension.
Extension ..... Sets the default extension for the file format.
Default Resolution ..... Specifies the resolution to be used when files with no resolution data are opened using **Open** in the **File** menu.
JPEG Image Quality ..... Specifies the image quality when a file is saved in JPEG format. A low image quality reduces the size of the file, but renders a coarser image.

Display Settings tab

Select **Options** in the **Tools** menu, and select the **Display Settings** tab.



Emphasis ..... Specifies what pixels should be left when the image is zoomed out. This option will take effect for the file you will open next time or for the on-screen image you will scan in next time.

Default : For bilevel images, black pixels are emphasized. For any other images, no pixels are emphasized.

None : No pixels are emphasized.

Dark : For bilevel images, black pixels are emphasized. For any other images, pixels in dark color are emphasized.

Light : For bilevel images, white pixels are emphasized. For any other images, pixels in light color are emphasized.

TIP

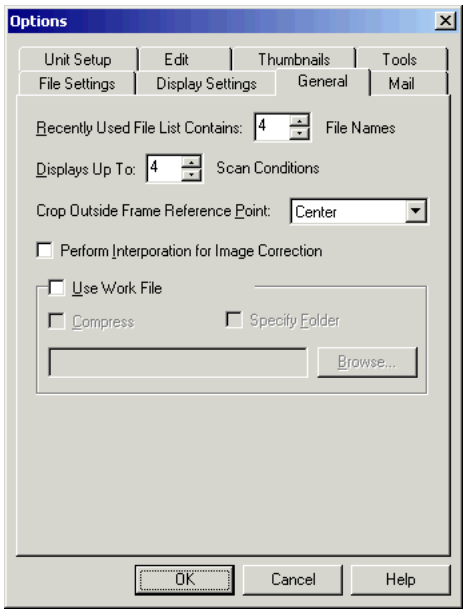
Setting "Dark" or "Light" for non-bilevel images of small size may have no effect.

High Speed ..... If you turn this option on, display-related operation (e.g., scroll) will speed up for the file you will open next time or the on-screen image you scan in next time through the scanner. (If the size of available memory space is small, selecting this option may have no effect.) In addition, this option will cause Edit Paste to show only the frame without dragging the image. Note that reading from a file or scanning through the scanner may slow down, because data for display is created when the file is being opened or scanned in.

Maximize ..... Maximizes the default on-screen image.
Loupe Size ..... Sets the loupe size in 1-pixel increments in the range from 50 to 500 pixels.
Loupe Magnification Rate ..... Sets the magnification of the loupe. You can select 1, 2, 4, or 8 for the magnification. You can also change it by pressing the <**+**> or <**-**> **key** while the image is currently zoomed in on with the Loupe.

General tab

Select **Options** in the **Tools** menu, and select the **General** tab.



Recently Used File List Contains Up To ..... Sets the maximum number of the files listed at the bottom of the File menu. To enable the new setting, you must restart Scanning Master Pro Color.
Display Up To ..... Sets the maximum number of the settings displayed in Save Conditions and Load Conditions in the Scan menu.
Crop Outside Frame Reference Point ..... Selects the position of the reference point when you specify Crop Outside Frame.
Perform Interpolation for Image Correction ..... If this option is specified, interpolation is performed to smooth out the data when it is grayscale or color data, and deskew, link, 4-point correction or trapezoidal correction has been performed.
Use Work File ..... If you turn this option on, you can save the scanned in on-screen image temporarily in the work file, thereby reducing the memory area used.

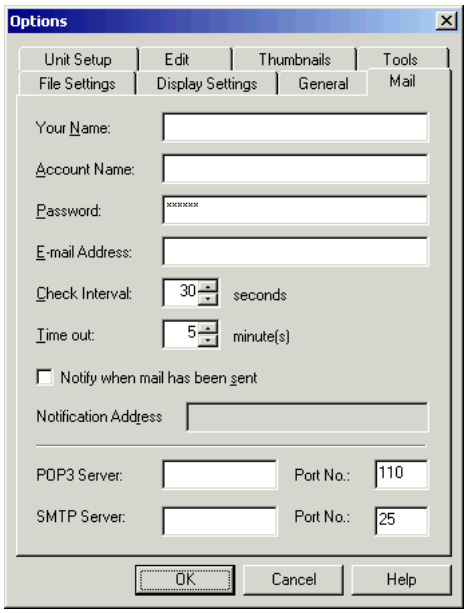
Compress ..... If you turn this option on, the work file will be compressed. The disk area will be reduced although operation may slow down a little.

Specify Folder ..... Turn this option on if you want to specify the folder in which the work file will be created. If you turn it off, the work file will be created in the temporary folder of the system.

Browse button ..... When selecting the folder in which the work file will be created, you can click this button to display the window that lets you select it.

Mail tab

Sets email transmission options.
The email transmission function is only available with the CS2000 scanner.
Select Options in the **Tools** Menu and select the **Mail** tab.



Your Name ..... Sets the name displayed as the sender. The following items will not be checked if this is left blank.

Account Name ..... Enter the account name for accessing your email server. Make sure you enter the name correctly.

Password ..... Enter the password for accessing the email server using the account designated in Account name.

Email Address ..... Sets the email address of the sender.

Check Interval ..... Sets the interval for checking for reply from the recipient when sending divided email.

Time out ..... Sets the time until an error is given when waiting for a reply from the recipient when sending divided email.

Notification when mail has been sent ..... Notification is sent to the following email address if this option is selected.

Notification Address ..... Sets the email address to which notification is sent.

POP3 Server Name and Port Number ..... Set the email server name and POP3 port number used for receiving email. The port number should normally be left at the default (110) setting.

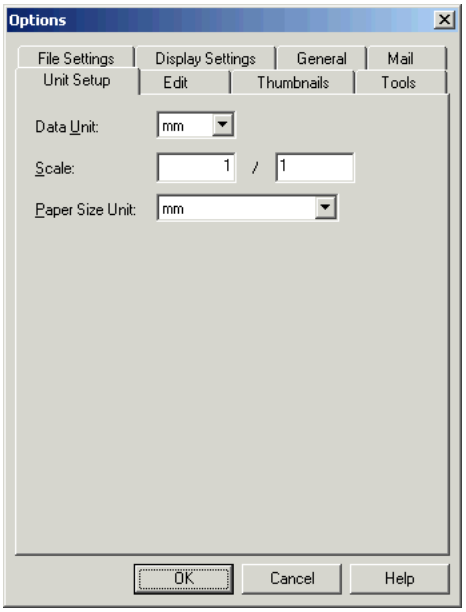
SMTP Server Name and Port Number ..... Set the email server name and SMTP port number used for sending email. The port number should normally be left at the default (25) setting.

It is recommended that you use a dedicated email address, and not your normal one. If you wish to continue using your current email address, you must set your email software so that emails received are left on the server.

If you are not sure about the email server or account name settings, contact your network administrator.

Unit Setup tab

Select **Options** in the **Tools** menu, and select the **Unit Setup** tab.



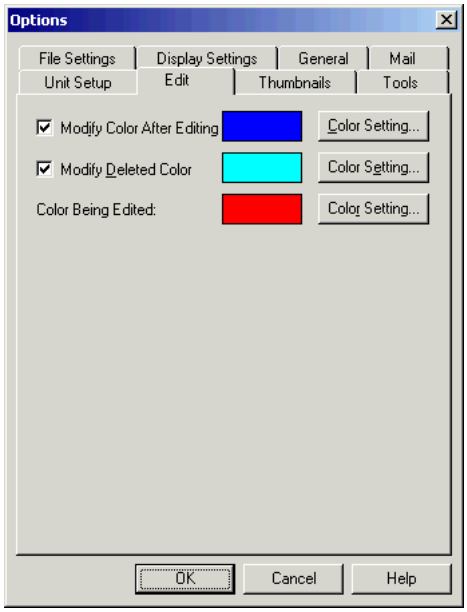
Data Unit ..... Sets the unit used in Relative Measure, 2-point Correction, and 4-point Correction.

Scale ..... Sets the scale used in Relative Measure, 2-point Correction, and 4-point Correction.

Paper Size Unit ..... Sets the unit used for the paper size.

Edit tab

Select **Options** in the **Tools** menu, and select the **Edit** tab.



Modify Color After Editing ..... Specifying this option changes colors edited using the foreground color to the color specified in **Color Setting**.

Modify Deleted Color ... Specifying this option changes colors erased by the background color to the color specified in **Color Setting**.

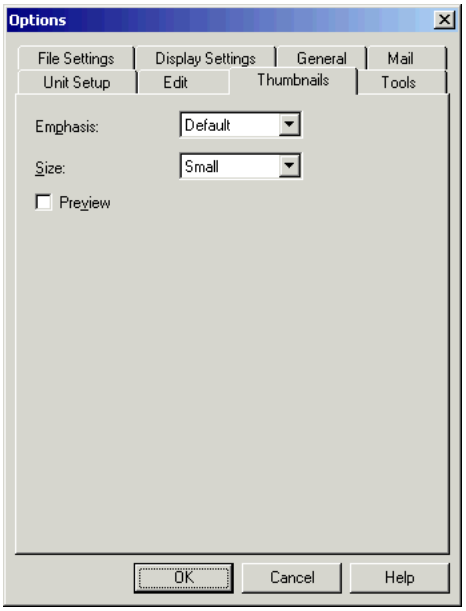
Color Being Edited ..... Sets the color of frames used to specify areas, and text being edited.

NOTE

The colors specified in “Modify Color After Editing” and “Modify Deleted Color” only apply to details that can be undone using “Undo” in the Edit menu.
The colors specified as the foreground and background colors will be applied in the actual data.

Thumbnail tab

Select **Options** in the **Tools** menu, and select the **Thumbnail** tab.
Specifies the method for displaying the Thumbnail and Search windows.



Emphasis ..... Specifies the method for displaying the thumbnails. This option is available if folders have been moved or thumbnails have been updated.

Default : For bilevel images, black pixels are emphasized. For any other images, no pixels are emphasized.

None : No pixels are emphasized.

Dark : For bilevel images, black pixels are emphasized. For any other images, pixels in dark color are emphasized.

Light : For bilevel images, white pixels are emphasized. For any other images, pixels in light color are emphasized.

NOTE

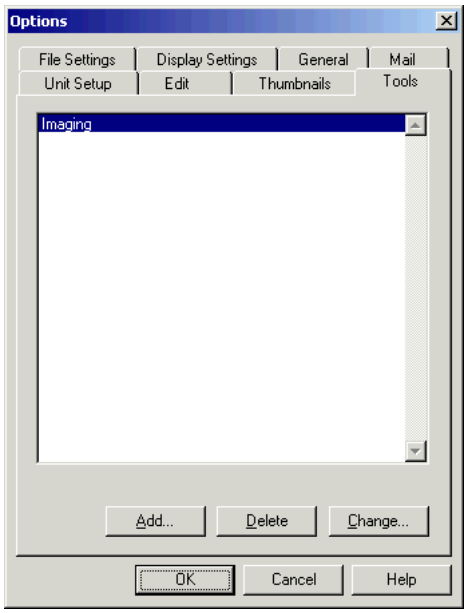
Setting Dark or Light for small images other than bilevel images may have minimal effects on the image.

Size ..... Sets the thumbnail size.
The thumbnail size can be set to Large/Medium/Small. This option is available if folders have been moved or thumbnails have been updated.

Preview ..... If this option is checked a preview of the currently specified image is displayed at the lower left of the window.

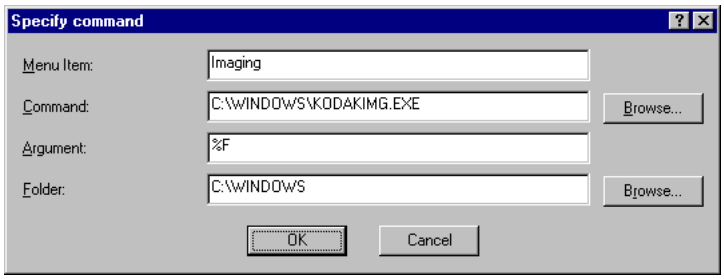
Tools tab

Select **Options** in the **Tools** menu, and select the **Tools** tab.
Saves tools launched using Scanning Master Pro Color. Saved tools are displayed in the Tools menu in the Thumbnail window or when the user right-clicks on a thumbnail.



Add ..... Saves a new tool.
Delete ..... Deletes the selected tool.
Change ..... Modifies the details saved for the selected tool.

Pressing the Add or Change button displays the Specify command window.



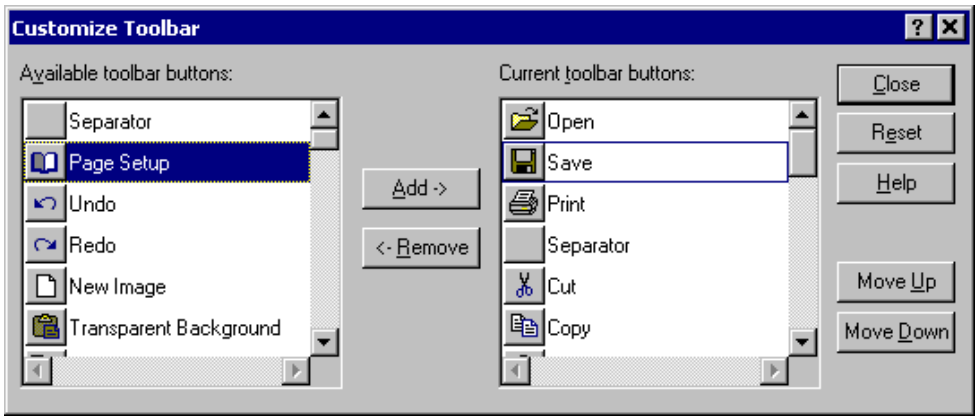
Menu Item ..... Specifies the name of the tool to be saved.
Command ..... Specifies the file name of the tool to be run.
Argument ..... Specifies the argument used when the tool is launched. If %F is specified, the tool is launched with the currently selected image file name as the argument.
Folder ..... Specifies the working folder.

NOTE

Up to 16 tools can be saved.

Customize

You can add a button to or delete it from the toolbar, or rearrange the buttons there.



Available toolbar buttons... Lists the buttons you can add to the active window's toolbar.

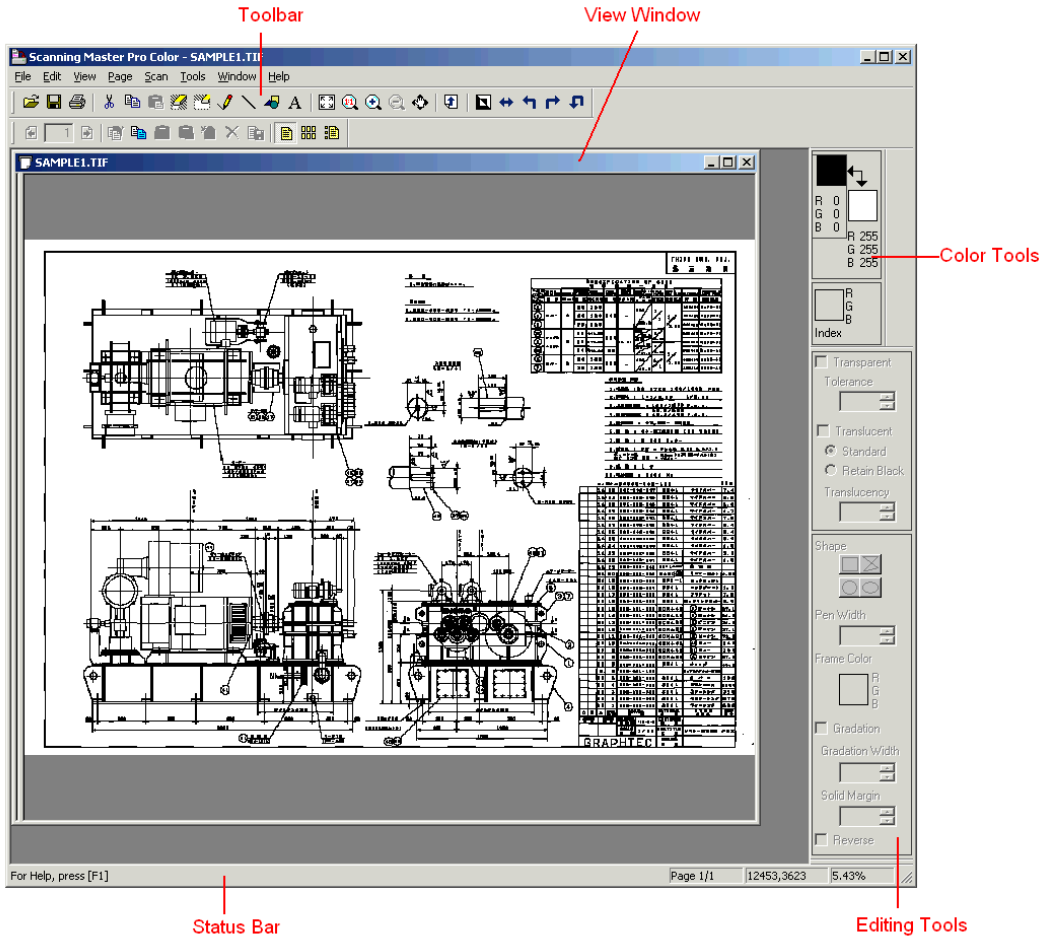
Add..... Moves to the Current toolbar buttons a button you selected in the Available toolbar buttons.

Remove..... Moves to the Available toolbar buttons a button you selected in the Current toolbar buttons.

Current toolbar buttons ..... Lists the buttons in the top to bottom order according to the left to right order in the active window.

Reset..... Returns the buttons on the active window's toolbar to the default.

5.2 View Window



Toolbar

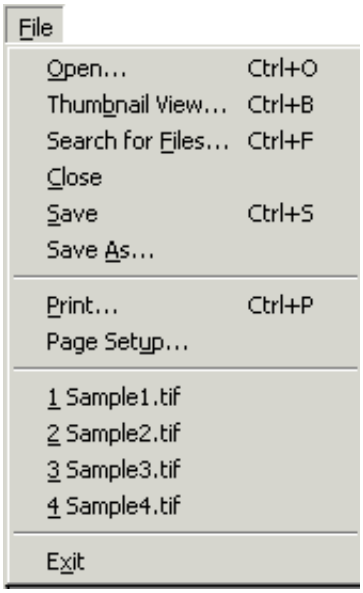
The Toolbar is located above the application window and just under the menu bar. On the toolbar, you can operate many tools used in Scanning Master Pro Color by clicking them with the mouse. To show or hide the toolbar, select the **View** menu > **Toolbar** command.

Status Bar

When you select a menu command or a button on the toolbar, the Status Bar gives information about the command (e.g., brief description).
To show or hide the Status Bar, select the **View** menu > **StatusBar** command.

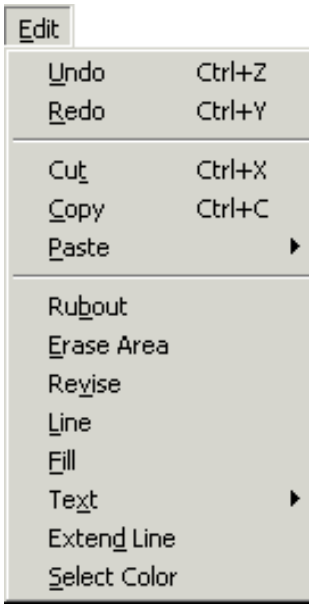
5.3 Menus

File Menu



Open**...** ..... Opens an existing on-screen image.
Thumbnail View**...** ..... Displays the saved images as thumbnails.
Search for files ..... Searches for files.
Close ..... Closes the currently open on-screen image.
Save ..... Saves the latest version of the on-screen image file, with the previous version overwritten.
Save As**...** ..... Saves the on-screen image under a new name.
Print**...** ..... Prints the on-screen image.
Page Setup**...** ..... Lets you set up the page layout and selection and connection of the printer (or plotter).
File names 1,2,3,4,**...** ..... Opens a recently closed file.
Exit ..... Exits Scanning Master Pro Color.

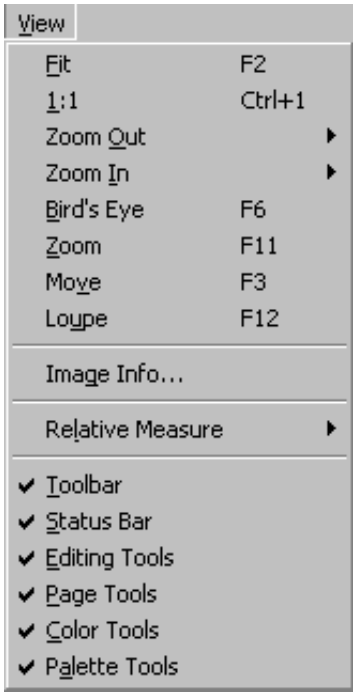
Edit Menu



Undo ..... Undoes the last action.
Redo ..... Redoes the action you undid with Undo.
Cut ..... Cuts and saves the selection in memory.
Copy ..... Copies and saves the selection in memory.
Paste ..... Pastes the memory contents to the on-screen image.
Rubout ..... Rubs out part of the on-screen image with the background color.
Erase Area ..... Paints the specified area in background color.
Revise ..... Retouches the on-screen image in foreground color.
Line ..... Draws a line in foreground color.
Fill ..... Draws a filled shape.
Text ..... Adds text.
Extend Line ..... Draws an extension line.
Select Color ..... Selects a color from the image and sets it as the drawing color.

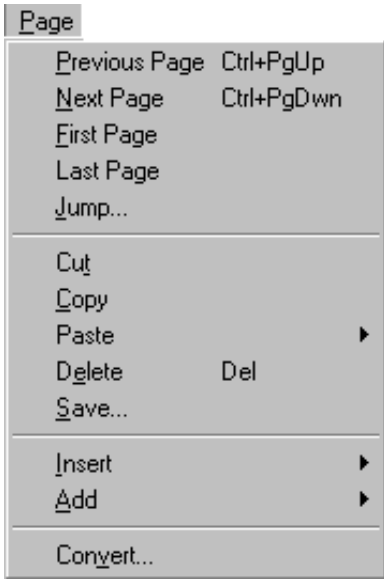
To quit during editing, press the <**ESC**> key.

View Menu



Fit ..... Displays the whole on-screen image to fit it in the current window area.
1:1 ..... Displays the on-screen image as Normal size, with one dot representing one pixel.
Zoom Out ..... Zooms out the on-screen image.
Zoom In ..... Zooms in on the on-screen image.
Bird's Eye ..... Shows or hides the window containing the overview of the on-screen image.
Zoom ..... Displays the detailed view of the zoomed section of the area at the current cursor position.
Move ..... Moves the displayed area of the image.
Loupe ..... Turns on or off the Loupe Mode, which enables you to zoom in on the area around the cursor.
Image Info**...** ..... Displays the window that lists detailed information about the on-screen image.
Relative Measure ..... Measures a relative distance on the on-screen image.
Toolbar ..... Shows or hides the Toolbar.
Status Bar ..... Shows or hides the Status Bar.
Editing Tools ..... Shows or hides the Editing Tools.
Page Tools ..... Shows or hides the Page toolbar.
Color Tools ..... Shows or hides the Color Tools.
Palette Tools ..... Shows or hides the Palette Tools.

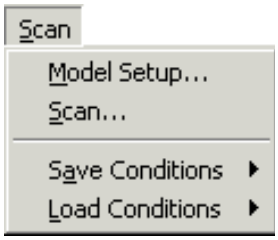
Page menu



Previous Page ..... Displays the previous page.
Next Page ..... Displays the next page.
First Page ..... Displays the first page.
Last Page ..... Displays the last page.
Jump**...** ..... Displays the specified page.
Cut ..... Cuts the selected page.
Copy ..... Copies the selected page.
Paste ..... Pastes the cut or copied page.
Delete ..... Deletes the current page.
Save**...** ..... Saves the current page as an image file.
Insert ..... Inserts an image in front of the current page.
Add ..... Adds an image after the current page.
Convert ..... Compresses the data for the current page.

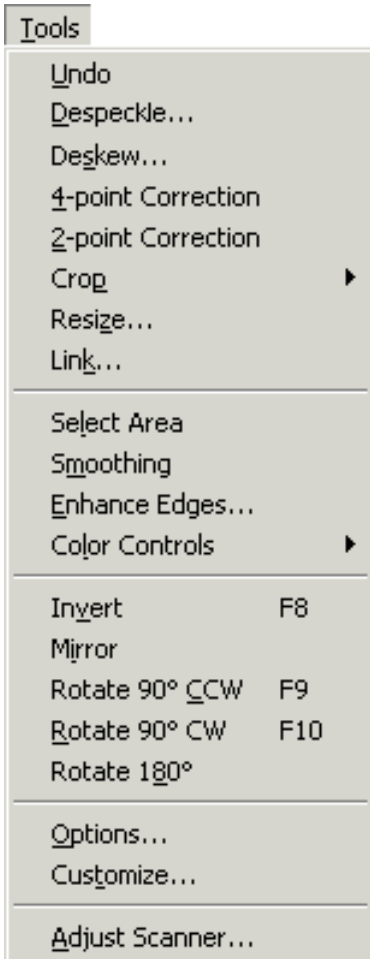
The page menu commands are only available for images compatible with multi-page format.

Scan Menu



Model Setup**...** ..... Displays the window that lets you set the scanner model for scanning and set the SCSI ID.
Scan**...** ..... Displays the Scan window.
Save Conditions ..... Saves the current scanning settings.
Load Conditions ..... Loads the existing scanning settings.

Tools Menu



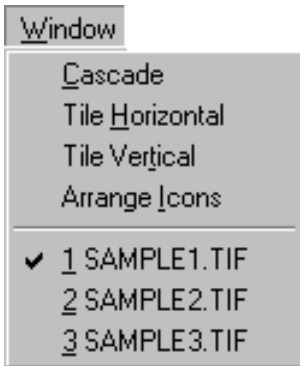
Undo ..... Undoes the previous raster action.
Despeckle**...**[*1] ..... Removes speckles from the background.
Deskew.. ..... Deskews an on-screen image.
4-point correction ..... Corrects distorted images.
2-point correction ..... Corrects image dimensions.
Crop ..... Crops the outside of the defined area.
Resize**...** ..... Displays the window that lets you resize data.
Link ..... Links two images.
Select Area[*3] ..... Selects the area for processing.
Smoothing[*2] ..... Smoothes the on-screen image.
Enhance Edges[*2] ..... Enhances the edges of the image.
Color Controls ..... Controls image colors.
Invert ..... Color-inverts the on-screen image.
Mirror ..... Inverts the on-screen image.

Rotate 90°CCW ..... Rotates the on-screen image 90 degrees counterclockwise.
Rotate 90°CW ..... Rotates the image 90 degrees clockwise.
Rotate 180° ..... Rotates the image 180 degrees.
Options... ..... Lets you set up the Scanning Master Pro Color defaults.
Customize ..... Adds, deletes, or rearranges Toolbar buttons.
Adjust Scanner... ..... Adjusts the scanner (IS3100, CS1000/1000EV/1100EV).

*1 Available only for bilevel data.
*2 Available only for grayscale and 24-bit color images.
*3 Not available for bilevel data.

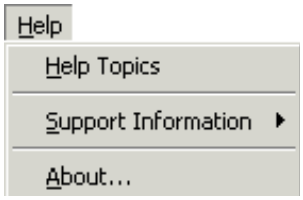
Window Menu

The Window menu contains commands that control how two or more application windows are to be listed.



Cascade ..... Cascades the windows.
Tile Horizontal ..... Tiles the windows horizontally.
Tile Vertical ..... Tiles the windows vertically.
Arrange Icons ..... Arranges the icons at the bottom of the windows.
Window Name 1, 2, **...** ..... Displays the window you clicked.

Help Menu



Help Topics ..... Lists the Contents of the Help window.
Support Imformation ..... Displays the Graphtec Corporation Web site.
About**...** ..... Shows information about the application version.

5.4 File Formats

Scanning Master Pro Color handles all the following file formats, but compatible formats vary according to the type of image data.

Bitmap ..... Saved as Windows bitmap data. The folder extension is BMP.

Bitmap RLE ..... Saved as Windows RLE compressed format bitmap data. The folder extension is BMP.

CAD Overlay ESP ..... This format is for CAD Overlay ESP data. The folder extension is RLC

Checkpoint

Resolution information cannot be added to the CAD Overlay ESP data at the time it is saved. When using Scanning Master to save CAD Overlay ESP data, the image data is saved as is. To load existing CAD Overlay ESP image data from a file, or to save the data under a different file format, select the Tools menu > Options > File Settings tab and then save at the resolution specified for the Default Resolution setting.

TIFF Uncompressed MSB ..... TIFF format, Motorola Big Endian uncompressed format. The default extension is .tif

TIFF Uncompressed LSB ..... TIFF format, Intel Little Endian uncompressed format. The default extension is .tif

TIFF G4 MSB ..... TIFF format, Motorola Big Endian Group 4 MMR compressed format. The default extension is .tif

TIFF G4 LSB ..... TIFF format, Intel Little Endian Group 4 MMR compressed format. The default extension is .tif

TIFF Packbits MSB ..... TIFF format, Motorola Big Endian Packbits compressed format. The default extension is .tif

TIFF Packbits LSB ..... TIFF format, Intel Little Endian Packbits compressed format. The default extension is .tif

TIFF CCITT G3 MSB ..... TIFF format, Motorola Big Endian CCITT Group 3 compressed format. The default extension is .tif

TIFF CCITT G3 LSB ..... TIFF format, Intel Little Endian CCITT Group 3 compressed format. The default extension is .tif

TIFF G3 MSB ..... TIFF format, Motorola Big Endian Group 3 compressed format. The default extension is .tif

TIFF G3 LSB ..... TIFF format, Intel Little Endian Group 3 compressed format.
The default extension is .tif

TIFF JPEG MSB ..... TIFF format, Motorola Big Endian JPEG compressed format.
The default extension is .tif

TIFF JPEG LSB ..... TIFF format, Intel Little Endian JPEG compressed format.
The default extension is .tif

CALS G4 ..... CALS TYPE 1 , Group 4 MMR compressed format.
The default extension is .cg4

PCX ..... PCX version 5 format.
The default extension is .pcx

Intergraph G4 ..... Intergraph Group 4 MMR compressed format.
The default extension is .cit

Sun Raster Uncompressed ..... Sun Raster uncompressed format.
The default extension is .ras

Sun Raster Encode ..... Sun Raster Encode format.
The default extension is .ras

JPEG ..... Joint Photographic Experts Group compressed format.
The default extension is .jpg

Checkpoint

Data cannot be saved in the CAD Overlay ESP, TIFF JPEG, PCX or JPEG formats if the width or length of the document exceeds the dimensions given below.

Resolution (dpi)	100	200	300	400	600	800	1200	1600
Length (mm)	16645	8322	5548	4161	2774	2080	1387	1040

File format compatibility

○ ..... Data can be read and saved
×..... Data cannot read or saved

Bilevel data	Grayscale data	8-bit color data	24-bit color data	File format
○	○	○	○	Bitmap
×	○	○	○	Bitmap RLE
○	×	×	×	CAD Overlay ESP
○	○	○	○	TIFF Uncompressed MSB
○	○	○	○	TIFF Uncompressed LSB
○	×	×	×	TIFF G4 • MSB
○	×	×	×	TIFF G4 • LSB
○	○	○	○	TIFF Pack Bits • MSB
○	○	○	○	TIFF Pack Bits • LSB
○	×	×	×	TIFF CCITTG3 • MSB
○	×	×	×	TIFF CCITTG3 • LSB
○	×	×	×	TIFF G3 • MSB
○	×	×	×	TIFF G3 • LSB
×	○	×	○	TIFF JPEG • MSB
×	○	×	○	TIFF JPEG • LSB
○	×	×	×	CALS G4
○	○	○	○	PCX
○	×	×	×	INTERGRAPH G4
○	○	○	○	Sun Raster Uncompressed
○	○	○	×	Sun Raster Encode
×	○	×	○	JPEG

The specifications, etc., in this manual are subject to change without notice.

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